THE CHEMIST AND DRUGGIST

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THE MONTH

THE year just closed was a lively one in pharmaceutical history, especially towards its close, when chemists were brought rather violently into collision with the Adulteration Act. The new year opens with good business prospects for the country, and nothing particularly gloomy in the pharmaceutical horizon.

The Chemists' Ball is for the moment the prominent subject of discussion in certain pharmaceutical circles. We hope to see it maintain the brilliant and enjoyable characteristics of former occasions. It is fixed for next Wednesday, January 21, at Willis Rooms, St. James'. A list of stewards, and all such information, will be found among our advertisements.

Our portrait this month represents Robert Bentley, the universally popular Professor of Botany at Bloomsbury Square. The high scientific position won by this gentleman, for he is undoubtedly one of the first botanists living, is a reflected honour on pharmacy, from which profession, as will be seen by our sketch, he is derived.

We record several utterances from influential Members of Parliament respecting the Adulteration Act. Our friends the grocers have been more active than we, and, indeed, have been more seriously affected. Still, it is very desirable that the position of chemists should be clearly stated in regard to this Act, and we therefore invite very special attention to the remarks we report from Mr. Stansfeld, in reply to a memorial from the grocers of Sheffield.

Our German correspondent reports some further investigations on the part of Professor Leube, of Jena, into the action of pepsine in the process of digestion, which tend to show that it acts exactly in the same way as a ferment, and is itself indestructible during the process.

Our Corner for Students has produced a very keen competition this month, the examination of which will certainly interest readers interested in chemical education.

The curious will find some singular memoranda in an article on superstitious methods for curing diseases. We shall be glad to hear of other legends of a similar character.

An alarming case of poisoning is reported from Montreal. An Irishman having abstracted from one of Evans & Mercer's carts a bottle of Vinum Colchici, proceeded to make merry with his friends in the belief that it was sherry. He and five other convivialists died from the effects of the poison.

We print in this number Lord Derby's admirable address to the students of the Liverpool College. It is not specially connected with pharmacy, but any reader who missed it in the daily papers and who reads it now will thank us for preserving such clear and earnest advice.

Some "Notes on Brazilian Medicinal Plants," by Mr. Simmonds, form an interesting contribution to Materia Medica.

We report a cheerful student's Christmas dinner at the South London School of Pharmacy last month. The hearty applause which the students gave to Dr. Muter and the other officials of the institution was of a most genuine character, and was highly gratifying.

The Sunderland chemists have indulged in their annual banquet, and those of Glasgow are getting ready for theirs.

On the other hand the Liverpool chemists are mourning over the disinclination manifested by the apprentices and students of the town to take advantage of the educational opportunities provided for them. Like children in the market place, they have piped, &c.

Several legal cases of importance are reported. At Liverpool the nominal fine of 5*s*. has been inflicted on a druggist for supplying mustard not absolutely genuine. The magistrate took the opportunity to intimate that a higher standard of purity in this article was looked for from a druggist than from a grocer. A case in London has proved that chemists' assistants are not included under the Master and Servant Act. They are to be regarded as clerks, who are specially exempt, and not as artificers or labourers.

PROFESSOR BENTLEY, F.L.S.,

DEAN OF THE MEDICAL FACULTY OF KING'S COLLEGE, LONDON.

THIS excellent botanist and most popular lecturer was born at Hitchin, Herts, being connected on his father's side (William Bentley, Solicitor) with Charles Lamb; and on his mother's side with the Society of Friends. He was first attracted to the study of science by reading works on chemistry and natural history to a friend who was blind. He was apprenticed to William Maddock, of Tunbridge Wells, one of John Bell's early apprentices. Mr. Maddock had been in practice as an Apothecary at Deptford previous to the passing of the Apothecaries' Act in 1815, a circumstance which influenced the present step, for it was the ultimate ambition of Mr. Bentley to enter the ranks of the medical profession. This very period of apprenticeship was the foundation of his whole after-life—our Professor is at this moment but continuing the occupations of his youth, and leading them to their legitimate results. He originally spent much time in the study of mathematics, and frequently sat up whole nights engaged in this favourite pursuit. Nature will never brook the violation of her laws, and then, as always, she asserted her just rights. It is scarcely necessary to add that Mr. Bentley's health was much injured, nor do we think that he has been ever entirely free from the consequences of this unwise application. Botany was then commenced in the hope that its study would effectually counteract too sedentary occupations, and that the "liberal air" and out-door exercise would repair the mischief done.

Mr. Bentley was most fortunate in falling in with Mr. Jenner, a well-known practical botanist, and especially distinguished for his knowledge of the Desmidieæ, and his admirable drawings in Ralf's "British Desmidieæ."

At this time he used to rise frequently before five o'clock and explore the neighbourhood, and he thus became thoroughly acquainted with the flora of Tunbridge Wells and the surrounding district. He took an active part in the establishment of what is now called the Tunbridge Wells Mechanic's Institute. He was chosen its first honorary secretary, and thus at the age of eighteen made his entrance into public life. Subsequently he gave several lectures to the members on botany, chemistry, magnetism, and electricity.

On the expiration of the apprenticeship, by the interest of Mr. Maddock, he became an assistant with Messrs. Bell, of

Oxford Street, a house which seems fertile in men whose biographies have to be recorded. This was about the date of the foundation of the Pharmaceutical Society, and amongst the list of original associates appears the name of Robert Bentley. When the School of Pharmacy was established, true to his botanical instincts, he attended the course of the late Dr. A. T. Thomson, and gained the first prize ever awarded by the Institution. The remembrance of this success has remained a constant source of gratification to its obtainer; and the pleasure of the recollection is heightened by the fact that the award was received from the hands of William Allen.

We are afraid that pharmacy did not reign supreme in the heart of the subject of this sketch. Circumstances arose which enabled Mr. Bentley to enter King's College as a medical student: preparatory to which he matriculated in the first division at the University of London. During his college career his time was devoted more especially to the study of anatomy, botany, and Materia Medica; and on the completion of his curriculum he became a member of the Royal College of Surgeons.

By the advice of Professor Edward Forbes, Mr. Bentley finished the course of lectures on botany at the London Hospital, which were interrupted in their delivery by the death of Edwin Quekett; and soon after, at the recommendation of Dr. Pereira, he was elected Lecturer on Botany in the London Hospital Medical School. In 1849 his immediate connection with pharmacy was renewed, as he was appointed to give the summer course of practical botany to the students of the school of pharmacy in consequence of the illness of Dr. A. T. Thomson. These lectures, we need not mention, are delivered every year at the Gardens of the Royal Botanic Society at Regent's Park; and we earnestly direct the attention of our readers to these most pleasurable and most instructive gatherings. Afterwards, to the great advantage of this generation of pharmacists, Mr. Bentley was elected Professor of Botany to the Parmaceutical Society of Great Britain. Great has been the excitement for some time past with respect to educational progress—many schemes have been proposed; many systems, both of teaching and school arrangement, have been tried. Out of these strivings two good things have come—better—infinitely better—preparatory books, and a wider distribution of scholastic advantages. Professor Bentley is entitled to his share of honour, as he was energetically associated with the Rev. Charles Mackenzie, Rev. T. Pelham Dale, and others in the formation of evening classes at Crosby Hall and elsewhere. These organisations have spread rapidly and done admirable service, and an army of intelligent young men are now admitted to the higher walks of scholarship, who beforehand were excluded by the nature of their engagements. Nowhere has the plan been more successfully employed than in the walls of King's College, London.

Changes were deemed advisable in the lecture department at Bloomsbury Square, in consequence of which the professorship of materia medica, which had been held by Pereira, was conjoined with that of botany. In 1854, Forbes, of King's College, was transferred to Edinburgh, leaving his London course unfinished—indeed, scarcely begun. Professor Bentley was equal to the emergency, and successfully undertook its completion. Next year he appeared as a candidate for the vacant post, but Mr. Henfrey obtained the appointment. It is not for us, who are ignorant of the private details, to venture a strong opinion, but we have always thought that Professor Bentley might have asserted a grievance, had not that been entirely foreign to his disposition. On this, a testimonial was given to him by the students, in which they thanked him for his past instruction and regretted his non-election. However, in 1859, the chair was again vacant by the death of Mr. Henfrey (himself no mean botanist), and Professor Bentley was chosen as his successor. In 1862, he became Professor of Botany at the London Institution, where he has lectured annually since 1855; and, in 1863, he was made honorary Fellow of King's College and Dean of its medical faculty, which responsible position he still enjoys.

The British Pharmaceutical Conference has rendered a large number of pharmacists familiar with the personal appearance of Professor Bentley. They will be able to judge whether the artist has succeeded in his task; and to them any notice of the genial urbanity of the Professor will be unnecessary. He was twice elected President, in 1866 and 1867.

At the Conference meetings the opening address is waited for with the greatest interest. Whatever be the cause, these productions are amongst the happiest efforts of their respective authors, and stand brightly in contrast with our more official utterances, with one splendid exception to the contrary. Professor Bentley's first address at Nottingham was worthy of the occasion; the following year, when presiding at Dundee, he offered the fairest argument for botany as a means of mental training with which we are acquainted.

He has long been an energetic worker on the Council, and chairman of the Garden Committee of the Royal Botanic Society of London, and gives annually a course of botanical lectures to the Fellows. His chief separate work, and the one with which his name is inseparably connected, is his "Manual of Botany," of which a third edition, long delayed in publication, has lately appeared. Striking improvements, especially in arrangement, have been effected in this work, and it has been brought up to the latest information in botanical research. Some of these facts we glean from Knight's not too accurate biography, to which also we are indebted for sundry dates. He was associated with Dr. Farre and Mr. Warington in editing Pereira's "Manual of Materia Medica and Therapeutics," which was published in 1855. The exact share which each took in this revised and amended issue will be obvious from the names. Professor Bentley also wrote "Lectures on the Organic Materia Medica of the British Pharmacopœia." These were not regularly published as a distinct work, but printed in the *Pharmaceutical Journal* for March and April, 1864, and were afterwards privately distributed. Once more he was engaged upon a somewhat similar task, where his abilities and careful observation had full scope. In 1872, in conjunction with Dr. Redwood, he edited "Pereira's Elements," an edition of which has been published in the United States of America. This is essentially a new book, thoug based on the previous Manual. The "Manual" comprises only the remedies of the first edition of the "British Pharmacopœia;' the "Elements" include those of the new edition, and al others either in common use or of recent introduction. Th text has for the most part been of necessity re-written.

Professor Bentley (as all Pharmacists are aware) has contri buted numerous articles to the pages of the *Pharmaceutica Journal*. These relate invariably to subjects connected with hi special department. At one time he forwarded a series des criptive of plants used in America as remedial agents, som of which have taken root in English pharmacy. These paper were of real practical value, for they contained not only a historical account, but full details with regard to doses and pre parations. For a few years prior to the death of Jacob Bel the journal of which he was editor and proprietor was produce under the most attractive circumstances. The materials for it issue were arranged once a month at the house in Langha Place, the editor, Professor Redwood, and a very small con mittee, being present. At the last meeting Mr. Bell was too i to speak, and conveyed his instructions in writing. It was this painful interview that Professor Bentley first attended, an he was named one of the editors who were to conduct th journal under altered regulations. For ten years he retain this position, until the management of the periodical unde went a further change.

THE CHEMIST AND DRUGGIST PORTRAIT GALLERY.

VI.

Very faithfully yours
Robert Bentley.

(PROFESSOR BENTLEY, F.L.S., DEAN OF THE MEDICAL FACULTY OF KING'S COLLEGE, LONDON.)

We may turn now for a moment, without trenching on the privacy of domestic life, to the more social relations of the Professor. In the year 1862 he was presented with an illuminated address signed by 157 of his pupils at the Pharmaceutical Society, accompanied by a very handsome present of plate, comprising a silver salver, claret jug and goblets. He possesses undoubted popularity as a teacher, and he has been fortunate in having trained some distinguished students. Amongst the number are Professor Marmaduke A. Lawson, of the University of Oxford, Professor W. T. Thiselton Dyer, of the Royal Horticultural Society, Dr. Trimen, of the British Museum, and Henry Bowman Brady.

One word is needful respecting the lectures to which allusion has been so often made. We are not unaware that biographical notices of this description occasionally indulge in more laudation, nor that such praise must prove distasteful and defeat its object. This we may say, that many a beginner has to thank the Professor, and does thank him from his heart, for the conscientious, never-wearying manner in which he explains the first principles of that science which he has to teach. He is never ashamed, nor ever neglectful of the minutest details; and though every lecturer rejoices over a brilliant student, it is reported on all hands, to Professor Bentley's honour, that he bestows equal care on the slowest and least promising of his class.

We would dwell for a moment on the overwhelming advantage of *one definite* object of study. A choice once made means self-reliance, contentment, and freedom from hankering after vain imaginings; it generally infers social appreciation and often money. Professor Bentley, from his apprenticeship, selected one chapter of the book of nature, both for his recreation and his work. Long may he live to enjoy the reading, and to induce others to share in his delight.

GERMANY.

(FROM OUR OWN CORRESPONDENT.)

Berlin, December 23, 1873.

Nine new concessions for apothecaries' establishments have just been granted for Berlin, making a total of 54 to a population of 900,000. In the course of next year from 14 to 20 new concessions will be granted, so that in two years the number of *apothekers* will have been augmented by more than fifty per cent.

Some modifications of the medicine tax (regulating the prices of prescriptions) have been adopted for 1874, whereby some 200 articles are to be charged lower, while a higher price is allowed for mercury and its preparations. Certain dispensing manipulations are also to be charged dearer, as, for example, the solution and filtering of a salt, for which 3*d.* will henceforth be allowed.

The deputies of the Prussian parliament who are also *apothekers* had an audience recently with Dr. Falck, the Minister of Public Worship and Education. They were accompanied by the Council of the German Apotheker-Verein. They came to lay before him certain grievances of the profession; but that gentleman said he was so fully occupied with ecclesiastical questions just now that, though he fully sympathised with the deputation, he could not give the necessary attention at present. Besides, he told them, that for the most part, the organisation of the laws affecting them now belonged to the Imperial Chancellery, to whom he referred them. They are to have an audience with the Minister Delbrück in the course of January.

OZONE GENERATOR.

The purification of the air of chambers by means of ozone has been accomplished, theoretically at least, by the invention of an apparatus which consists of a basin of water with several glass tubes, open at both ends, and enclosing sticks of phosphorus. These tubes are so placed that one end rises somewhat above the surface of the water. The whole is covered with a glass shade with several openings to admit the passage of the ozonised air. Evidently the great hindrance to the general adoption of such an instrument lies in the poisonous and inflammatory nature of the phosphorus, but the object seems so desirable that it is to be hoped this difficulty will yet be overcome.

PEPSINE.

The observations of Dr. Schacht, reported in your last number, in reference to pepsine, have quite recently been confirmed by one of the ablest and most independent authorities. Professor Leube, of Jena, well known for the Leube's Meat-solution named after him, in a lecture on the Therapeutics of Stomach Diseases, just published, with a collection of other clinical essays, arrives at the same conclusions as those of Dr. Schacht. He says:—1. No condition of the stomach has yet been observed in which pepsine is altogether absent. 2. The cause of indigestion is generally the absence of sufficient acid. 3. The action of pepsine in the solution of albumen is analogous to that of a ferment, and that it will continue so to act *ad infinitum* merely by the addition of more acid. 4. That alcoholic solutions, and especially wine, on account of the tannin it contains, should be avoided as vehicles for pepsine.

Finally, he recommends in cases of indigestion a solution of meat prepared by digesting chopped meat with water, the addition of a small proportion of muriatic acid, and some thickening. Such a solution he finds extremely nourishing, and he reports some excellent results.

THE GERMAN APOTHEKER-VEREIN.

In the December number of your journal mention was made of the North German Apotheker-Verein. This was a *lapsus calami*, inasmuch as for the past two years no North German, but only a general, German-Verein, embracing the whole empire, has existed.

The organisation of this association rests on the principle of decentralization. It divides Germany into nineteen districts, over each of which a district director presides.

Each district is divided into about five circles, each with a sub-director. The association altogether numbers 2,600 members, most of whom are apotheke-proprietors. The council consists of seven members, including a president, treasurer, and secretary. The district directors are elected by the sub-directors, each for a term of three years. Each year a meeting of the district is held, the director presiding, and this is always called a few weeks previous to the general meeting. The circles consist sometimes of as many as fifty members, who elect their circle president or sub-director for a term of two years. This president's duty is to watch over the honour of the profession and the interests of the association, and also to promote and maintain a friendly feeling among the members. He is also expected to instigate scientific investigations, to provide for the reading circle, and, lastly, to attend to the benevolent institutions of the association.

Then he has also to keep a list of the members, to collect subscriptions, to receive proposals for membership, and to preside over two general meetings of the circle, one of which is held in the spring, and the other in the autumn.

By this system questions are well ventilated locally before or after coming before the general assembly.

AUSTRIA.

(FROM OUR OWN CORRESPONDENT.)

VIENNA, Dec. 30, 1873.

THE Government has granted permission for the establishment of three new pharmacies in Vienna. This will make, for 1874, 60 apothekers in a population of 800,000. Throughout the whole of the Austro-Hungarian monarchy, on an area of 10,976 square miles (German), and with a population of 35,181,775, there are 1,812 apothekers. For example, in Bohemia, with a population of 5,170,156, there are 292 apothekers. Prague, the chief town, contains 15. In Brünn, the chief town of Moravia, there are nine pharmacies; three in Troppan (Silesia); five in Linz (Upper Austria); four in Salzburg (Salzburg); four in Innsbrück (Tyrol); 13 in Grätz (Steiermark); four in Klagenfurt (Carynthia); 10 in Lemberg (Galicia); 24 in Pesth (Hungary); 20 in Trieste, and, as we said, 60 in Vienna. The remainder are distributed in the smaller towns.

AUSTRIAN CHEMICAL MANUFACTURES—*continued.*

The largest chemical works in the neighbourhood of Vienna are those of Wagemann, Seybel & Co., at Liesing. This manufactory was established in the year 1828, especially for the purpose of working some patents in reference to acetic acid, but having discovered a cheaper method of manufacturing chlorate of potash about the year 1835, the works were extended, and have gone on increasing ever since. At that date they occupied about 11,500 square metres, now they take a space of 287,650 square metres. A special railway, 1,800 metres long, connects them with the Southern Railway. They employ 200 workmen, who have established among themselves co-operative, provident, and sick societies.

Sulphuric acid is one of the chief articles of manufacture. This is conducted in six lead-chamber systems, and the total annual production reaches 7,840,000 kilogrammes. Seybel was the first to recognize the value of the pyrites of Austria for this purpose, and he himself owns some mines at Bösing, near Pressburg, where the manufacture of sulphuric acid is also carried on. For the concentration of the acid, four platinum crucibles are employed, worth 250,000 francs, and this firm also bought the platinum crucible exhibited by Messrs. Johnson, Matthey & Co., of London, at the recent Exhibition.

Ammonia is another speciality of this firm. They prepare it from the water from the Vienna gas works, and produce annually over a million kilogrammes of pure liquid ammonia, and more than three million kilogrammes of ammonia salt.

Austria is a large wine-growing country, and consequently produces considerable quantities of cream of tartar. From this the Liesing factory produces some 2,240,000 kilogrammes of tartaric acid annually. The same firm manufactures besides about one and a-half million kilogrammes of muriatic acid yearly, rather more of nitric acid, 84,000 kilogrammes of crystallized acetate of lead, 40,000 kilogrammes of preparations of tin, 70,000 kilogrammes of sulphate of copper, 35,000 kilogrammes of sulphate of iron, and nearly half a million litres of concentrated vinegar.

Besides this factory at Liesing, Seybels possess some chrome ore mines at Kranbat (Steiermark), but the great consumption of combustible materials and English competition render the work impossible here; this ore is therefore now worked at Hrastnigg (Steiermark). This factory was formerly at Trieste, but is now in the neighbourhood of a brown-coal deposit. Besides chrome salts, saltpetre is also prepared and refined there. They employ 130 workmen, and the annual value of their produce is one and a quarter million francs.

THE REASON WHY.—The following incident is reported by the *Detroit Free Press* as having occurred between a grocer and a customer:—"'Thirty-two cents!' echoed a woman yesterday, when her grocer charged her that sum for a pound of butter. 'Yes, 'um,' he replied, with a bland smile. 'You see the grocers can't carry much of a reserve, and we can't turn our collaterals at a sacrifice. If the Government calls in the bonds due in 1874, and the imports of bullion tend to ease the money market a little, butter must find its level with everything else. Butter is very panicky just now, but I think the worst is over.' She paid the money without further growling."

A NEW SOLVENT OF PHOSPHORUS;
ITS PREPARATION AND PHARMACEUTICAL USE.

By A. W. GERRARD.

Dispenser and Teacher of Pharmacy to the University College Hospital.

THE principal known and most generally adopted solvents of phosphorus for pharmaceutical purposes are bisulphide of carbon, chloroform, ether, alcohol, oil of almonds, oil of theobroma, and mutton suet.

The power of these bodies to dissolve this element varies from any proportion to less than half per cent.; the most powerful being bisulphide of carbon, the least, alcohol.

Most of the above solutions of phosphorus, when dispensed, are of an unsatisfactory and unstable character. Those which are fluid and miscible with water in the presence of mucilage—the manner in which it is usually prescribed—are rapidly decomposed and become inert; they are likewise nauseous and objectionable to the patient in an extreme degree. The solid forms are but little better and are exceedingly troublesome to manipulate.

Bisulphide of carbon has been recommended by Mr. Proctor, of Newcastle, as a means of dispensing phosphorus in the pill form, and it answers the purpose very well, with the exception that the pills retain a compound smell of phosphorus and bisulphide of carbon, which is repulsive in the utmost degree.

The new substance which I propose to add this evening to the list of solvents of phosphorus is resin, that body described in the Pharmacopœia as the "residue of the distillation of the turpentine.' This substance suggested itself to me amongst others as a probable solvent, and the result of my experiments upon it is that I have found it capable of dissolving four or more per cent. of phosphorus; the limit of its solubility is a question for further experiment.

I would call this substance phosphoretted resin. The method of preparing it is thus:—Take a strong, wide-mouthed, well-stoppered bottle, and weigh it; then melt a quantity of resin sufficient to fill the bottle; let the bottle be warmed; then pour in the resin to nearly but not quite fill the bottle; re-weigh, and for every ninety-six parts of resin take four of phosphorus. Now observe that the resin is in a fluid state; if so, add the phosphorus, and fix the stopper tightly. Place in a sand-bath previously warmed, and apply heat to 200° C. or 392° F.; digest at this temperature, and shake frequently until the phosphorus is dissolved.

The kind of resin to be used in this preparation is the black translucent variety, known in commerce as rosin, not that pale yellowish kind usually met with in chemists' shops, unless it has previously been deprived of its water, of which it contains a varying amount—sometimes ten per cent.

In conducting the process, it is necessary to observe the following precautions:—In adding the phosphorus, if possible let it be in one piece, and take care that the resin is previously in a fluid condition, as then the phosphorus readily sinks below the surface, and is covered by the resin; otherwise, if the phosphorus were in small pieces and the resin semi-fluid, the phosphorus would rest on the half-hot resin, and speedily take fire; but by observing the above precautions, this accident may be prevented.

A bottle full of the preparation should be made at a time, as I find there is great risk of accident (having had one myself) if the vessel is only partly filled. The phosphorus is also volatilised, and deposited in the upper portion of the bottle.

Keep a thermometer in the sand-bath during the process, and maintain the temperature between 200 and 210 C. At higher temperatures the resin boils, and the heat is liable to change the phosphorus to the red amorphous state.

When the prepared resin has cooled it is difficult to remove it unless the bottle be broken; the method I have adopted is to draw it from the bottle, when partly cooled, under hot water.

It is a pharmaceutical process which, like many others, requires care and attention to ensure success, but whatever difficulties may arise, to a practical person a remedy will suggest itself.

I will here mention a curious change which takes place if this phosphoretted resin be reheated. When it reaches a certain temperature it becomes of a whitish cream colour throughout; if the temperature be raised still higher it again becomes transparent: this phenomenon does not occur in the cooling. It is probably due to the influence of molecular change.

The formula I would suggest for its exhibition is the following:—

Take of—

Phosphoretted resin, 4 per cent. . .	25 grains
Powdered white sugar	75 „
Tincture of tolu, a sufficient quantity.	

Pulverise the resin, mix with the sugar, and form into a mass with tincture of tolu—eight to ten drops are sufficient; then divide into twenty pills—each pill will contain one-twentieth of a grain. This forms a mass of an excellent consistence, and pills made therefrom retain their form and present an elegant appearance without the addition of any coating; they have but a faint odour of phosphorus, and that may be completely removed by the addition of oil of peppermint.

The experience gained from the administration of these pills in the in- and out-patients' departments of the hospital to which I am attached proves that the therapeutic properties of the phosphorus are in no way injured or modified by this combination, but that it is fully equal to any that had been previously used.

In conclusion, I consider the advantages of this preparation to be that it is inoffensive to the taste of the patient, definite and reliable for the prescriber, ready and convenient to the dispenser, and I believe, judging from its nature, it has unlimited keeping powers.—*Pharmaceutical Journal.*

HOMŒOPATHY.

Dispensing Memoranda.

THE Pharmacopœia Committee of the British Homœopathic Society has prepared some remarks on the dispensing of homœopathic medicines, which have been published in the *Homœopathic Review.* From thence we obtain the following:—

The Dispensing of the Preparations.

The forms in which homœopathic medicines are dispensed are powders, tinctures, pilules, and globules.

The powders consist of sugar of milk, to which has been added a given quantity of the trituration prescribed, or on which has been dropped a given number of drops of the tincture. It is necessary, therefore, to remember that only those attenuations can be dispensed in the form of powder which have been made with proof, or stronger, spirit. If prepared with a weaker spirit, the sugar of milk will partially dissolve, and thus a most inconvenient preparation will result. The tinctures themselves are often dispensed, either in bottles with directions to mix so many drops in a given quantity of water, or the prescriber orders so many drops to be mixed with so many ounces of water, and sent out as a mixture. In order to possess a convenient form for administering fractions of a drop, Hahnemann adopted the plan of saturating sugar globules with the attenuated tincture, and then directing so many of those to be taken at a dose. Since Hahnemann's time a larger sugar globule, termed pilule, has been introduced, and is much used both in this country and America. Another form of powder has been recommended in America, and used occasionally in this country, and is at times very convenient. It is called a tincture-trituration, and is prepared as follows: A weighed quantity of sugar of milk, for instance two ounces, is put into a mortar, and one fluid ounce of the tincture (usually the mother tincture) is poured over it, and the whole is well rubbed together, forming a soft paste. This is put on one side in a dry place, lightly covered with paper to exclude dust, but not to prevent evaporation; and as the paste gets drier it is again and again rubbed up well and scraped from the mortar and pestle until it becomes quite dry, when a second ounce of liquid is added and the operation repeated. When dry it is put up in bottles and preserved like any other preparation. From the way it is made it will be obvious that one grain of a tincture-trituration will contain as much of the medicine as one minim of the tincture itself.

Beyond the convenience of carrying them about and dispensing them as powders, there is no advantage in the tincture-trituration over the tincture; and it should never be used for the purpose of making attenuations, which should invariably be prepared direct from the tinctures themselves.

A few words must be said respecting the obtaining and medicating pilules and globules.

Those preparations are made of sugar and starch, and it is always better to procure them from a manufacturer who prepares them especially for homœopathic chemists, rather than from the confectioner, who, having frequently to colour his preparations, would be very apt to employ his machinery indiscriminately for the coloured and the colourless, and hence the latter would not be sufficiently pure for our purpose.

In medicating the pilules and globules a suitable quantity should be placed in a bottle, and the tincture with which they are to be saturated poured over them in sufficient quantity to thoroughly moisten every one of them, and the regular admixture of the tincture and the globules should be ensured by repeatedly shaking, or, better still, by rolling the bottle horizontally in the hand. Some chemists fill the bottles with the tincture and leave them to macerate for several days; while others carefully ascertain how much the pilules and globules will absorb, and add exactly that quantity. Whichever plan is followed the greatest possible care is required to secure perfect saturation.* The latter process, when carefully carried out, has the advantage of avoiding all exposure of the pilules and globules in drying; whereas, if the former plan is followed, it is necessary after a time to pour off the excess of tincture, and to dry the pilules and globules between sheets of filtering paper, a plan which is objectionable on many accounts.

Before closing these practical directions it will be well to say a little about the proper method of cleaning the utensils employed by homœopathic chemists. It has been already stated that all careful homœopathic chemists set apart separate pestles and mortars for each medicine which has to be triturated.

All the mother tinctures, and especially all the attenuations, should in the first place be put into perfectly new bottles, closed with perfectly new corks, and these should never in future be filled with any other medicine or attenuation.

It must happen, however, that measure-glasses, bottles which have contained mixtures, &c., are required to be used again and again, and hence it is well to know how they can be thoroughly freed from every trace of the medicine which they have previously contained. This may be effectually accomplished by washing the bottle in an ascending stream of water in place of a descending stream, as is almost universally employed. The chemist should have a fine nozzle and stopcock adapted to his water cistern in his laboratory (over the sink), and so arranged that the stream of water ascends like the jet of a fountain. He then washes his bottle or glass, as the case may be, in the usual manner, carefully removing every visible impurity, and then, while the vessel is still wet, he should hold it over the fine nozzle (which must be fine enough to pass through the neck of the smallest size bottle he has to wash), and while in that position open the stopcock and allow the stream to strike against the bottom of the glass or bottle he is washing; in this way, as soon as the water mixes with the remains of the medicine, it flows down the sides of the vessel and escapes into the sink, and in a very short time not the slightest trace of medicine can remain in the glass or bottle. It can then be drained and dried in the ordinary way.

On Writing Prescriptions.

The peculiarities of homœopathic pharmacy entail certain peculiarities in prescribing which must be noticed.

1. Since there are numerous preparations of each medicine, it is essentially necessary to mark this after the name of the medicine. For example, it is not sufficient to order Belladonna. The name must be followed by the sign denoting the particular preparation. Thus;

Bell. ϕ, Bell. 3x, Bell. 6, Bell. 30.

would denote respectively the mother tincture, the third decimal, the sixth centesimal, and the thirtieth centesimal attenuations of the medicine.

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* It is found advantageous in medicating pilules and globules with attenuations, which are usually prepared with strong alcohol, to make those required specially with 20 O.P. spirit, which will be more readily absorbed than stronger spirit.

2. After the sign denoting the preparation must follow the usual signs for the quantity; and in connection with it must be a notification as to whether triturations, tinctures, pilules, or globules are wanted. Thus:

Merc. vivus 3x grs. 2 = 2 grains of 3rd decimal trituration.
Merc. vivus 6 gtt. 2 = 2 drops of 6th centesimal tincture.
Merc. vivus 6 pil. 2 = 2 pilules of 6th centesimal attenuation.
Merc. vivus 30 gls. 3 = 3 globules of 30th centesimal attenuation.

These may be written thus:

Merc. vivus grs. $\frac{2}{3}$x, gtt. $\frac{2}{6}$, pil. $\frac{2}{6}$, gls. $\frac{3}{30}$.

Following these necessary rules, the homœopathic prescriptions will assume some such forms as these:

For Powders.

Aconitum 3x gtt. iij.
Sacchar. Lactis, grs. vj. M.
Fiat pulvis. Mitte tales iv.

Sig.—Dissolve a powder in dessert-spoonfuls of water, and take one dessert-spoonful every hours.

For Mixtures.

Belladonna 12, gtt. vj.;
Aqua destill., ℥ vj. M.

Sig.—A dessert-spoonful to be taken every hours.

Two things are especially to be recommended, viz., that all prescriptions should be written in such a manner that any homœopathic chemist may read them with certainty and facility; and that the directions for taking the medicines should be so written that both the patient and chemist can understand them.

THE PHARMACEUTICAL COUNCIL.

New Regulations for the Preliminary Examinations.

At the meeting of the Pharmaceutical Council on January 7, a new code of regulations applying to the Preliminary Examinations and to the Examinations for the Bell Scholarships, the Pereira Medal, and the Prize of Books were recommended by the committee appointed to investigate the subject, and unanimously adopted by the Council. The code runs as follows:—

1. That for the year ensuing from July 1 next, the following places be taken as centres:—

ENGLAND AND WALES.

Barnstaple
Berwick-on-Tweed
Birmingham
Boston
Brighton
Bristol
Cambridge
Canterbury
Cardiff
Cardigan
Carlisle
Carmarthen
Carnarvon
Cheltenham
Chester
Colchester
Darlington
Doncaster
Dorchester
Exeter
Guernsey
Hereford
Hull
Jersey
Leamington
Leeds
Leicester
Lincoln
Liverpool
London
Lynn
Macclesfield
Manchester
Newcastle
Northampton
Norwich
Nottingham
Oxford
Peterborough
Plymouth
Portsmouth
Preston
Reading
Salisbury
Scarborough
Sheffield
Shrewsbury
Southampton
Stafford
Swansea
Taunton
Truro
Worcester
York.

SCOTLAND.

Aberdeen
Dumfries
Dundee
Edinburgh
Glasgow
Inverness
Perth

2. That persons be especially appointed by the Council to superintend the Preliminary Examination in London and the provinces; that they be called superintendents of examinations, and be paid fees for each examination; such superintendents not being necessarily members of the Board of Examiners.

3. That a deputy superintendent be also appointed by the Council in each centre.

4. That a fee of one guinea be paid to the superintendent or deputy superintendent on the occasion of each examination.

5. That wherever it can be so arranged, the local secretary be offered the appointment of superintendent.

6. That the examinations be held in the months of January, April, July, and October, on the first Monday of the month, at 12 o'clock noon.

7. That Medical Latin be discontinued in the Preliminary Examination after the end of the year 1874.

8. That it being objectionable to hold the examinations in the house of the superintendent, he shall be authorised to engage some other apartment suitable for the purpose, and charge a sum not exceeding ten shillings to the Society on account thereof.

9. That the Examination for the Jacob Bell Memorial Scholarships be held annually on the first Monday in July, concurrently with the Preliminary Examination, and that on such occasions an extra fee of one guinea be paid to the Superintendent.

10. That notice be issued in the "Pharmaceutical Journal" two months prior to the day of holding the Preliminary Examination, that such examination will take place, and giving a list of the Centres at which it will be held.

11. That in future the Examination for the Pereira Medal and Prize of Books be held in London and Edinburgh only.

12. Candidates for the Preliminary Examination must give notice to the Secretary, 17 Bloomsbury Square, not less than 14 days prior to the day on which the Examination is to be held, of their intention to present themselves for examination, and state the Centre at which they desire to be examined.

13. That the instructions to Superintendents of Examinations be as follows:—

Pharmaceutical Society of Great Britain.
17 Bloomsbury Square, W.C.

Instructions to Superintendents of Examinations.

To be read aloud to the candidates before commencing their writing.

The Preliminary Examination.

The Examination Papers, with Special Sheets for the candidates to write upon, will be forwarded from the Secretary, under cover, to the Superintendents, so as to be received by them on the morning of the day fixed for the Examination.

Writing materials for each candidate should be provided, and all arrangements for the accommodation of the candidates completed before the hour fixed for opening the packet of questions and papers from the Secretary.

Candidates must be in their places at the time appointed and, after this time no candidate shall be admitted.

Candidates should be placed at sufficient distance from each other to prevent copying, and they must not be permitted to bring either books, scribbling papers, or memoranda into the examination room.

The Examination Papers must be opened by the Superintendent at the appointed time, in the presence of the candidates and immediately distributed by him.

He must see that each candidate signs his papers in the place indicated.

No Examination Paper shall be taken from the room until the Examination is complete.

The Superintendent must carefully watch the whole Examination to see that the candidates do not use unfair means, either by assisting each other. or using books or notes. No person, except the Superintendent, should be permitted to be present, and on no consideration shall candidates be allowed to speak to each other after the papers are distributed.

A candidate wishing to ask any question must hold up his hand; the Superintendent will come to him and satisfy any legitimate enquiry. No explanation will, however, be given on the subject matter of the questions.

At the expiration of three hours from the time of the distribution of the questions, the written papers of the candidates, with all memoranda and scribblings thereon, must be delivered to the Superintendent, who must immediately enclose all the papers in the envelope sent herewith by the Secretary, seal it with his seal, and forward it by first post thereafter to the Secretary, enclosing the accompanying declaration duly filled in and signed.

The Secretary was instructed to communicate with the local secretaries in the proposed centres, asking them if they would undertake the duties of superintendents, and consulting them as to the appointment of deputy-superintendents in the respective districts.

The Adulteration Act.

The report of the Parliamentary Committee stated that certain information had been received with reference to alleged infringements of the Pharmacy Act. The Committee recommended that the particulars of one case should be forwarded to the solicitor with instructions to take proceedings in the event of his being able to obtain further and conclusive evidence. The attention of the Committee had been drawn to the prosecution of a chemist for the sale of adulterated mustard; and a letter had been received from the Chemists' Association at Wolverhampton asking what their position was with regard to the sale of sweet spirit of nitre, milk of sulphur, sal volatile, citrate of iron and quinine, and other preparations. The letter had been forwarded to the solicitor in order that he might embody it in the case he was about to lay before Counsel the points which had been raised.

Mr. Hampson was very glad to find the Council were moving in this matter, which very seriously affected the whole trade. He was somewhat doubtful of the value of the opinion when obtained, but he hoped the Parliamentary Committee would consider the whole subject carefully, and, if they found it necessary, would recommend the Council to go to Parliament for an alteration of the Adulteration Act.

Mr. Sandford said the main point, he believed, on which the Solicitor desired to have the assistance of Counsel's opinion was, whether under the Pharmacy Act certain offences were not amenable to the law on the action of the Council of the Society, and if so whether persons so offending were liable to be prosecuted in a Police Court. This was a very important question and required grave consideration, but he did not apprehend the Society was competent to expound the law, and therefore those who put such questions as those sent from Wolverhampton should be recommended to watch the cases as they occurred, and act accordingly.

Mr. Hampson said he was only anxious that the Parliamentary Committee should apply themselves to this question, and if they found they could recommend any amendment in the Adulteration Act, to go to the Government as speedily as possible, and, if possible. get the amendment made in the ensuing session.

Mr. Williams thought this a very good suggestion, and hoped some step would be taken to strengthen the hands of the Government in altering the act, which he was sure they had no idea would operate as it was found to be doing. If it were to be carried out in the stringent way in which it was now attempted to administer it, it would be impossible for chemists and druggists to carry on their business.

Mr. Atherton suggested that a sub-committee should be appointed to wait on the Government on this matter.

The President thought it would be better not to take any active steps until the opinion of counsel had been received and considered.

Mr. Betty said he believed it was generally known that the operation of the Adulteration Act was not what the Legislature intended it should be, and it was also known that the Society, as a body, was in opposition to it. It could not, therefore, be too widely known that the Society had taken that responsible position upon themselves to defend the interests of chemists and druggists in the matter. He did not think they could ever hope to abolish the Act, but he thought if they used their utmost endeavours they might so amend it that it would be fair to the public, and at the same time would not unduly press upon those who administered to the public wants.

Mr. Greenish remarked that it had been stated once or twice by Mr. Sandford that there was an understanding with Earl Granville that the Adulteration Act should not affect chemists with respect to medicines, but, unfortunately, that understanding was in no way binding upon the magistrates.

The report of the Committee was then unanimously adopted.

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Among other business transacted was the appointment of Mr. Geo. S. Taylor of London, and Mr. F. Baden Benger of Manchester as examiners. Mr. Hills (the President) presented to the Society a copy by Mr. Downard, of Sir Edwin Landseer's portrait of Jacob Bell, and also an artist's proof of the portrait of Sir Edwin Landseer himself. The number of students in the School of Pharmacy was reported as 49 at work in the Laboratory, 36 attending Professor Redwood's lectures, and 25 attending Professor Bentley's. The Professors reported that though the number of students now attending the classes was less than at the same time last year, they had every reason to be satisfied with their conduct, and were of opinion that when the new system was further known it would work advantageously, as the number of students was gradually increasing.

Medical Gleanings.

IN the whole broad range of melancholy subjects of reflection which the British Press supplies there are few things more pitiful than the never-ceasing struggles of the "medicals" to get quoted in the daily journals. In their view it is high treason against the dignity of the profession that the author of a medical work should advertise it or get it reviewed in one of the lay papers, while the competition for corners in the *Times* among themselves leads them to adopt the most humiliating expedients. The illness of a royal personage in any part of the universe invariably sets Jenkins to work. Hashing up the information derived from the most recent penny paper, and artfully seasoning it with a liberal supply of technical terms, a paragraph is readily concocted which is solemnly intended to deceive the simple ones into the belief that the journal in question has some special means of acquiring private palace "tips." This we have borne patiently so long as only Europe was concerned, but the mighty air of importance which nearly all the medicals have assumed in regularly commenting upon the Ashantee war is too much for us. Week by week we are having the most elaborate comments and criticisms on the conduct of the war, in which the usual mixture of omniscience and condescension is visible. Our contemporaries seem at times sadly exhausted for legitimate subjects.

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When thieves fall out, we have heard, honest men come to their own. But the falling out of physicians is not likely to result quite so happily for their patients. A French wit says that the disputes of allopaths and homœopaths are like a duel with the witnesses stationed between the combatants. Whoever wins the patient is pretty certain to be killed. The medical papers have recently got up a squabble which is as discreditable to them as it is dangerous to the public. Dr. George Johnson commenced it by relating at a meeting of the Clinical Society some sensational stories of "poisonings by homœopathic medicines," especially mentioning homœopathic tincture of camphor. Homœopaths, in reply, very fairly pointed out that if a strong solution of camphor be called "homœopathic" because it sells better with that adjective attached than without it, the principle of homœopathy is not thereby affected. A man might call a peculiar razor a "homœopathic" one, but homœopathy, as a system of treatment, would not be responsible if somebody should commit suicide or murder with such a razor. What we complain of most of all is, that eminent physicians and medical writers should, when treating this subject, consider it *comme il faut* to assume an ignorance respecting homœopathic principlels which it is hardly possible they can possess. Even supposing the system of Hahnemann to be as black as they paint it, such ignorance would be disgraceful. It would correspond exactly to the narrowness of certain theologians of both ancient and modern times, who, perfectly assured of the possession of all truth in themselves, have persistently treated every opposing or divergent school of thought as predestined to condemnation. Homœopathic investigators have done some really good service both in discovering virtues in new medicines, and in considerably modifying the brutal methods of treatment which formerly prevailed. This is quite apart from the truth or falsehood of their special system, a question which will not be settled by violent and ignorant abuse.

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Sir Henry Thompson has written an article in the *Contemporary Review* to advocate cremation in lieu of burial. We are glad that the subject is being discussed in such high quarters, though it will take a long time before society will circulate back to the civilisation of the ancients. Sir Henry Thompson, however, takes a somewhat too practical view of the question. As one of the main recommendations of cremation, he suggests the value of the ashes of the dead for purposes of manure. Truly, this is an idea suited to the age. But if these views seem at all mercenary, those of the *Lancet* are surely somewhat too etherial. Referring to some comments by the *Spectator* on the same subject, the *Lancet* remarks: "The sole advantage of cineration in our contemporary's eyes is, that it would put a final stop to being buried alive—a danger which might be averted by the surgeon's adopting the simple expedient of piercing the heart with a long needle of every person before burial. Would our contemporary constitute the surgeon an executioner if the poor victim should happen to be in a trance?"—which we answer by asking, "Would the *Lancet* prefer to bury a man alive, rather than pierce his heart?"—a question which can admit of but one solution.

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One of the Paris papers quite recently recorded the death of a wealthy old nobleman in that city, who left in his will the sum of 100,000 francs, to be paid to some person or persons who should sit in his vault and watch by his coffin for seven days and nights, and thus be at hand in case of returning animation. We do not know the sequel of the history, but such a clause was sufficiently curious considering that death may be assured by such a simple method as that indicated by the *Lancet*.

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The *Medical Press* makes an attempt to alarm its readers by recording a step just taken by the lady-medical-student-conspiracy, the object of which seems to be to gain at Dublin what has been refused at Edinburgh. A lady has written to the College of Physicians of Dublin, asking if they will be willing to confer the midwifery diploma of the college on women. The reply was to the effect that this had already been done, and would be done again when the proper opportunity occurred. According to our contemporary the precedent happened in 1696, and was the first license in midwifery ever conferred, and the only one ever granted to a woman. The possession of such a diploma would give the holder a claim to medical registration, and would thus permit her to practise medicine and surgery in all its branches. We wish every success to the lady who has thus somewhat keenly struck out a new war-trail, and trust her experience may be as fortunate as was that of her predecessor who so confidently relied on Erin's honour and Erin's pride.

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Chinese ideas are a never-failing source of amusement. Their views on scientific subjects are generally very curious. The *Scientific American* gives us the following summary of their notions on physiology:—According to them the chief organ of the human economy is the spleen. Its functions are manifold. It rubs against the stomach and grinds the food; it keeps up the proper degree of heat in the five *toang*; it moves the muscles and the lips, and thus regulates the opening of the mouth; furthermore, it directs our secret ideas so that they become known to us. The liver regulates the tendons, and ornaments the nails of the hands and feet. The heart regulates the blood-vessels, beautifies the complexion, and by its means we are enabled to open the ears and move the tongue. Of the circulation of the blood the Chinese are profoundly ignorant. The kidneys govern the bones, beautify the hair of the head, and open the orifices of the two *yin*. The diaphragm, being spread out like a membrane beneath the heart, and joined all round to the ribs and spine, covers over the thick vapours, so that the foul air cannot rise. The gall-bladder is the seat of courage; hence the popular belief that whoever eats the gall of a brave man or beast will inherit the valour of its original possessor—a belief which frequently leads to a lively competition for the galls of remarkable animals.

Of the function of the brain the Chinese have but a vague idea, still they think it has something to do with the intellect. In proof of this suspicion, they offer the case of a man of great renown for his learning, whose misfortune it was to fall from a horse with such violence as to break his skull. The physician who was called to treat the case hit upon the happy thought of supplying from the skull of a cow the portion of brain the wise man had lost. The operation was only a partial success, since the subject's eminent powers of mind remained in utter prostration, and from that time forward he was a very different man from what he had been. Whether his residual intelligence exhibited any bovine characteristics our informant unhappily neglects to say.

Hereafter we expect to see this case given as additional evidence that the Chinese are the original discoverers of everything. It is certain that it greatly antedates the operation recently reported from Leipsic for the edification of rural editors: a case in which the brain of a good-natured wine seller, dead of heart disease, was transplanted into the cranium of a soldier condemned to death for murder, with a corresponding transference of mental and moral traits. The Leipsic surgeon is plainly no better than a skilful imitator.

A memorandum, which is the result of twelve years' experience as the superintendent of Colney Hatch Lunatic Asylum, has been written by Dr. Sheppard, who attributes from 35 to 40 per cent. of insanity to alcoholic drinks, which he alleges are flavoured with poisonous matters, such as amylic or fusel oil.

A LADY but recently settled in Concord, N. H., says the *Patriot* of that city, went into a drug store, and innocently asked for a pint of alcohol, to be used in a spirit lamp. "Have you a prescription?" inquired the clerk, politely. "A what?" asked the lady, in surprise. "A prescription from a physician," explained the clerk. "We are not allowed to sell alcohol unless it is ordered by a physician." "Not even alcohol?" said the astonished customer. "Well, that is strange. I was not aware that any one ever drank pure alcohol as a beverage." "Very true. I think myself that such a regulation is ridiculous, but we must obey it. I am sorry if you are inconvenienced, but cannot sell you any alcohol unless you bring a prescription." The lady left the drug store, and when last seen, in the middle of the afternoon, was circulating around, looking for a physician who would be willing to certify that her spirit lamp was seriously ill—with some disease or other peculiar to lamps at this season of the year—and that its case was one requiring treatment with stimulants.

LORD DERBY ON THE BATTLE OF LIFE.

IT is seldom, indeed, that the purchasers of the daily papers get such good value for their money as they had on the day when Lord Derby's address to the students of the Liverpool College last month was reported. It was a speech in a thousand; one as far as we know unequalled in excellence by any delivered all through last year. Therefore, we reproduce it here, for we judge that pharmaceutical matters can afford to be displaced to this extent by the string of gems of thought and counsel, as applicable to ourselves as to all other classes, which the noble speaker presented.

First (he said) let me congratulate the winners of the prizes. They will not often again enjoy a success, unless their lives are very different from those of most men, as to which they can feel so sure that it has been fairly earned, and which will come to them accompanied by so few drawbacks. The victories of mature life, in whatever sphere of action, are for the most part gained with effort, disputed while their novelty remains, and admitted only when, with their novelty, whatever enjoyment they could bring has for the most part passed off. It is not so with those whose success we recognise to-day. They may well feel glad, and perhaps a little proud of what they have done. But let them recollect, as a caution, and let the losers also recollect, by way of encouragement, that an early success, although it gives a lad a good start, gives him little else; that the race of life is a race which tests endurance more than speed; that some of the most hopeless failures in mature years have been of the dashing, brilliant, clever young fellows who seemed at school and college to carry everything before them; and that the slow, plodding lad, who seems to have nothing in his favour except a dogged determination to go on, often comes out better than either he himself or any of his friends expected. There occur to me the cases of two men, one within my own personal recollection, the other belonging to the preceding generation, who rose in due course to fill some of the highest offices in the State, and filled them not unworthily, who were at college, as I have been informed, almost the habitual objects of good-natured ridicule among their acquaintance for what was considered to be their exceptional slowness of comprehension; and, on the other hand, I really should not like to inquire—for, though an interesting piece of social statistics, it would be a very painful one—how many high wranglers at Cambridge and first-class men at Oxford, how many winners in their day of prizes and scholarships, have seen their boats go down when they have pushed out into the rough open sea of the world, and are now painfully struggling for bare subsistence, perhaps at some wretched literary hack-work, or possibly keeping sheep in Australia, and doing odd jobs for an employer who very likely can neither read nor write? Now, the moral I wish you to draw is this—Do not any of you be disheartened because you think yourselves slow or stupid, even though you may really at present appear to have good ground for the belief, and do not, on the other hand, any of you be confident of the future merely because you know or believe yourselves to have what is called cleverness. If I were to tell you that in my belief that particular quality of intellectual quickness and sharpness is by no means the first qualification for a successful career, many people would consider, in these days of competitive examinations, that I was wilfully indulging in a paradox. But I believe it is the truth. Talent is the edge of the knife which makes it penetrate easily, but whether it penetrates deeply or not depends quite as much on the force applied to it as on the sharpness of the blade. What a man really takes a keen interest in he is seldom too dull to understand and to do well; and, conversely, when a man does not care to put the best of his brains into a thing, no amount of mere cleverness will enable him to do it well if it is a thing of any real difficulty, or unless it is one which he has trained himself to do easily by much previous practice, in which latter case he is really reaping in present case the fruit of past exertion; living, so to speak, upon the capital which he has accumulated by early industry. I don't know who it was that said that "genius consisted in an enormous capacity for taking trouble;" but, whoever he was, and although that definition may not be quite wide enough, it is not, to my mind, very far from the mark. The most conspicuous instance of complete efficiency and success in active life recently witnessed is that which was obtained three years ago by the military organisation of Germany; and I am told by those who ought to be the best judges that, both among Germans themselves, and among other foreign critics, that efficiency and success are ascribed, not so much to any extraordinary display of genius or originality of design on the part of some few individuals, as to the generally diffused habit of minute and almost microscopic attention to every detail of duty, however apparently small, which has become a tradition in that service. I believe that everywhere the same result will follow from the same cause; but to acquire and to keep up in every-day work that habit of concentrated attention on details two things are necessary—training and energy. The training you can all give yourselves; the energy which is necessary to maintain it is, in part, no doubt a gift of nature. Men possess it, to begin with, in very different degrees; but it may be lost where it naturally exists, and it may be enormously increased where originally it was but feeble. And in that connection it is important to notice how much depends on what students and young men are apt to despise as below their notice — I mean a perfectly sound physical condition. Take two men, if they could be found, exactly alike in mental and bodily aptitudes, and let the one go on carelessly and idly indulging his appetites, and generally leading a life of what is called pleasure, and let the other train himself by early hours, by temperate habits, and by giving to muscles and brain each their fair share of employment, and at the end of two or three years they will be as wide apart in their capacity for exertion as if they had been born with wholly different constitutions. Without a normal healthy condition there can, as a rule, be no good work; and though that qualification cannot absolutely be secured or preserved by any rules, a little common sense and care will go a long way, both in securing and preserving it. On that point I would just give you these hints—First, that it is not mental labour that hurts anybody, unless the excess be very great, but rather fretting and fidgeting over the prospect of labour to be gone through; so that the man who can accustom himself to take things coolly, which is quite as much a matter of discipline as of nature, and who, by keeping well beforehand with what he has to do, avoids undue hurry and nervous excitement, has a great advantage over one who follows a different practice. Next, I would warn you that those students who think they have not time for bodily exercise will, sooner or later, have to find time for illness. Third, that where an opportunity of choice is given, morning work is generally better than night work; and lastly, a matter which I should not stoop to allude to but that I know the dangers of an overdriven existence in a crowded town, that if a man can't get through his day's labour, of whatever kind it may be, without artificial support, it should be a serious consideration for him whether that kind of labour is fit for him at all. But supposing that you have developed in yourselves as much energy as you are fairly capable of—and observe that, while I deprecate carelessness in this matter, I advise no man to go into the opposite extreme of watching his own mental state with an attention which is apt to grow morbid—the next question is, how are you to employ it? Is it to be concentrated to the utmost on your business, whatever that may be, or diffused among various pursuits, some useful in a material or professional point of view, some valuable only as methods of intellectual cultivation? That is a question which everybody must learn to answer for himself. Experience will teach him what suits his own temperament, and nothing else can. It may be that the former course leads more surely to what is called practical success, though I think all the hardest workers I have known in their business were men who had a very keen enjoyment of at least some one pursuit outside of their business; but I am certain that the latter course gives a larger return of general well-being. A great lawyer, or engineer, or architect, or medical man, or manufacturer, or merchant, is often, perhaps generally, in some danger of getting to care for nothing beyond his profession. To my mind that is a mistake—and it is a mistake that brings its own punishment. Mr. Mill, in a late work, mentions incidentally certain persons who, knowing nothing except political economy, necessarily, as he says, knew that but ill; and I believe the generalisation is a true one. But, apart from that, success in business is very well; but, when you have succeeded, what then? It is a poor choice either to have to go on working, without necessity or advantage, merely because you have no other taste or pleasure left in life, or else to make the hazardous experiment of passing from an existence intensely occupied to one of utter vacuity. Here it is that literary culture will be really of use. Put it at the lowest, a man who has the habit of reading, to whom his books are the best company, finds in them a distraction from anxiety, a comfort in petty troubles, a protection against weariness and *ennui*, a society which he can take up when he will, and leave without giving offence, and, above all, an escape from the vulgar interests and mean details of private life into the healthier air of thought and ideas which concern mankind in general. Isolation and indifference are impossible to us. We could not, if we were foolish enough to wish it, remain absolutely and exclusively absorbed in our own affairs; but we have the choice in our own power whether we will participate in them only as lookers on in the great intellectual movements which influence our race, or whether our interest in that which is external to ourselves shall be confined to the petty gossip of the parish or the town where we live. More than that, every age and every profession has its characteristic merits and defects; and what we read may be and ought to be a kind of preventative of the one-sidedness which grows upon us from what we have to do. You live, let me suppose, in a town surrounded with the works of man only; all the more reason why you should keep up some study or pursuit that gives you an insight into the marvellous laws of animate or inanimate nature. You follow, say, a profession or business where your minds are necessarily for the most part conversant with the means by which money may be made—legitimately and honourably made of course, but still where the great prize set before you is pecuniary gain. I think a man so circumstanced, unless he is one of a thousand, will be a little apt to look at most things in their material aspect, which is not always their most real aspect; that those three familiar letters, "L.S.D," will get rather too deeply impressed on his brain; that he will be inclined to let his thoughts run too much on interests and too little on ideas; and for that very natural and excusable bias he may find a corrective, either in the speculations of great thinkers, in the historical documents which bring it home to him how microscopically small are his own concerns in comparison to those of the world in general, or better still, as I should say, in the records left by those eminent men, of whatever country and age—for happily they have existed in most countries and in most ages—by whom wealth and comfort, and life itself, were accounted as nothing where public duty or private honour, or even the last infirmity of noble minds, the desire of being remembered after death, drew them in an opposite direction. I speak, as in this place I hold myself justified in doing, mainly to those who are going out into the world to earn their own living by more or less intellectual employment. If there be any here on whom that necessity does not press, who will be the masters of their own time and pursuits—to such I say they enjoy an exceptional privilege, but one which brings with it also exceptional temptations. Self is a hard master. Pleasure comes most surely to those who do not make it an object, who have an object beyond and independent of it, and who are content to take the rough with the smooth. Those who, being so circumstanced, do not make work for themselves, feel the want of it; and those who do, feel the want of external pressure to keep them to it. Leisure unbounded ought to bring to those who have it power to do more and to think more than others; but I am afraid as a rule they are generally apt both to do less and to think less. I do not talk to you on the duties which, apart from professional occupation, you owe to the community of which you are members. In these days of active and awakened thought, the responsibilities of citizenship are brought home to us all. You will interest yourselves, and as educated men you ought to interest yourselves, in public affairs. All I ask of you to bear in mind is what young men do not always think of, that if indifference in such matters is a fault—which I should be the last person to deny—it is equally a dereliction of duty to jump to conclusions upon them without the same degree of care and thoughtfulness which you would feel bound to exercise in regard to your private concerns. Think, read, discuss, speculate as much as you please, but recollect that strong convictions may go together with very limited knowledge; that to have got hold of a truth in connection with any subject is a very different thing from having got possession of the whole truth; that scarcely any man sees things at forty as he saw them at twenty; and that it is not only your interest as a matter of self-culture, but your duty towards the community of which you are members, to keep your minds open to reasoning, and your judgment free on the great subjects of public concern until you are satisfied, not indeed that you have attained to the knowledge of what is absolutely true and right—for any man must be presumptuous who feels sure that he can do that—but that you have come to the decision which deliberately appears to you the soundest, and which is most in harmony with your permanent and habitual convictions. There are graver subjects which I will barely touch. You live in an age of inquiry, of doubt, of mental restlessness, when more than ever men are unwilling to accept traditional solutions of the great mysteries which surround our life, and when many brains are bewildered, and many hearts are made to ache, by the vain effort to solve problems impenetrable to human reason. You cannot escape the common destiny. Those of you who reflect—and I hope they will be many—will inevitably have times of mental perplexity, when the very purpose of existence seems obscure and doubtful; when traditions appear to fail and reason is baffled, and when men ask in bewilderment "What does it all mean?" I am not here to deal with these high matters; it is not my duty, nor is this the place. Only so much I tell you—I believe that there are ideas implanted in us, which, in a sound mind, no merely intellectual disturbance will long affect, and of which, in the deepest darkness, we may always, if we will, keep hold. Right and wrong; honour, duty, and country, benevolence towards men and a responsibility towards the unseen Power by which human actions are guided and controlled—these are not idle phrases. In all countries and ages they have retained their meaning. They are realities which correspond with the deepest wants and feelings of our nature; and no man will feel himself utterly cast down who can say in his heart what the wisest and best of the human race have proclaimed in the whole tenor of their lives—Whether I am happy or unhappy is not my chief affair: what most and first concerns me is to find my work in life, to recognise it, and to do it.

NOTES ON BRAZILIAN MEDICINAL PLANTS.

By P. L. Simmonds.

At the different European International Exhibitions very large and varied collections of raw materials have been shown from Brazil. Not the least interesting and important of these were the pharmaceutical products and medicinal substances of this great and prolific region, about which comparatively little is known. Many of the reputed virtues ascribed to them require testing and verification. Unfortunately, the information respecting them is meagre and indefinite, and it would be very desirable for the Pharmaceutical Society to obtain from Brazil, through some botanist or mercantile correspondent, a full collection of as many as possible of the products alleged to have medicinal properties. With the view of directing prominent attention to this fruitful field of investigation, I throw together a few notes gleaned from the several special Brazilian Exhibition Catalogues, the French Jury Reports, Brazilian pamphlets, and other sources.

Very many of the substances enumerated have unfortunately only the native names given, and as I have not many of the products before me, nor the "Dictionary of Brazilian Medicinal Plants" of Dr. Nicholas Joaquim Moreira to refer to, I am unable to scientifically identify many.

Brazil is a promising country for new pharmaceutical products, a comparatively limited number being as yet known and appreciated in Europe. Some few, indeed, have a general and deserved reputation, among which may be cited Ipecacuanha, the emetic root of *Cephaelis ipecacuanha*, of which Brazil has the monopoly in the markets of the world, and Sarsaparilla (*Smilax*), of which it furnishes one of the best sorts.

Balsam of Capivi, furnished by several species of *Copaifera*, and from which as much as 12 lbs. may be obtained by one incision.

Copaifera guyanensis, Dec., and other species are met with in nearly all the provinces of Brazil, but most abundant in the valley of the Amazon. The oil is obtained from the trees at stated periods.

Benzoin (*Styrax benzoin*), rivalling that of Sumatra and Siam, can be obtained in Brazil.

The odoriferous seeds of *Aydendron Cuyumary*, Nees, are largely used in medicine, and the tonquin beans or cumaru seeds (*Dipteryx odorata*, Dec.) are well known in commerce for their use in perfumery, flavouring snuff, &c.

From the seed of the fruit of *Myristica Bicuiba*, Schott, a solid fat is obtained, in the provinces of Bahia and Sergipe, which is used in skin diseases.

Then there are the emetic roots of *Richardsonia brasiliensis* and of various Ionidia. The febrifuge barks of *Mikania officinalis*, *Ivonia febrifuga*, *Solanum pseudochina*, and of *Exostemma souzanum*, the latter held in much esteem by the natives, who employ them under the names of Quina Curitiba and Quina di pianchi. *Cassia brasiliana*, which is scarcely admitted yet into the European markets, is a kind of jalap root produced by two species of *Ipomœa*. *Spigelia anthelmia*, the Arapabaca of the Brazilians, an energetic poison, but anthelmintic in small doses. The Pareira brava, which was long erroneously ascribed to *Cissampelos Pareira*, but which Mr. Hanbury shows now to be produced by *Chondodendrum tomentosum*, R. & P., is the universal medicine of the natives; bitter, and considered as lithontriptic.

The serpent nuts (*Feuillea trilobata*) are considered alexipharmics. The seeds of *F. cordifolia*, Linn., are employed to cure those attaked with tetanus. An oil is obtained by boiling them.

Guarana (*Paullinia sorbilis*), which contains caffeine, is used internally in dysentery and intermittent fevers, and is an esteemed febrifuge of the natives. It has also taken an important place in French pharmacy as a remedy against certain periodical nervous affections. Agoninda and Angelim pedra, with their isolated active principles agonidine and angeline alkaloids, regarded as substitutes for quinine, deserve attention in Europe.

From the powerfully astringent bark of *Schirrus antarthritera*, Mart., a febrifugal principle is extracted. The astringent bark of one of the myrtle tribe is used as medicine on the Amazon, and the astringent seeds of Pajura in Para.

Gustave brasiliensis, D.C., has medicinal properties, and the edible fruits of *Genipa brasiliensis*, Mart., common throughout Brazil, are used in medicine. The seeds of *Bombax gossypifolium* are considered as purgative as those of *Croton tiglium*.

I now give some few others alphabetically arranged:—

Angelim.—A powder extracted from this plant is used as an anthelmintic in small doses, but in larger quantities it is a powerful drastic.

Arueira (*Schirrus aroeira*), Velt.—The bark is astringent, and from the fruit is extracted a rose tint, which is used in dyeing.

Barbatimao (*Stryphnodendron Barbatimao*, Mart.)—The bark and fruits are used in medicine and also for tanning and dyeing. A decoction of the bark is given internally in diarrhœa, leucorrhœa, &c., and externally in cases of hernia, hæmorrhages, and ulcers.

Cainca (*Chiococca anguifuga*).—A tincture of the bark is used medicinally in small doses as a diuretic and purgative, but is emetic in large doses. It is administered in the treatment of hydropesias, apoplexy, insanity, rheumatism, and syphilis. This root—the "raiz preta" of the Brazilians—is used in Europe.

Manaca or Manacu.—This shrub is found wild and cultivated. It is considered a remedy for rheumatism and nervous complaints. The powdered roots are administered internally as a diaphoretic, diuretic, antisyphilitic, and emetic. It is given as an antidote to the bite of cobras, but is dangerous in large doses.

Marupahy.—An infusion of the leaves and bulbs is given as a calming medicine in cases of vomiting and violent dysentery. Applied externally it is said to be a good wound healer.

Marupa-miry.—An infusion of the root is given in cases of diarrhœa.

Mastruco.—Herb Santa Maria.—The tincture is used as an anti-scorbutic, and an essential oil is obtained from the herb and seeds.

Massaranduba (*Mimnusops elata*).—The fresh white sap furnishes a very savoury milk, which is taken with tea or coffee or mixed in gruel; it is nutritive, and a good substitute for cow's milk. It is used externally for poultices, and is administered internally as a pectoral and analeptic. The sap congeals in twenty-four or thirty hours, and then somewhat resembles gutta-percha, except that the colour is not dark. It was introduced a few years ago from British Guiana under the name of Balata gum.

Murure (*Bichetea officinalis*).—The red sap of this "vegetable mercury" is depurative and anti-syphilitic. Found in the provinces of Maranham and Para.

Muirapuama.—The root is considered exciting and aphrodisiac in weak energies, and in the worst cases of local paralysis.

Muiratinga.—The milky sap is applied externally in cases of rheumatism, contusions, &c.

Pao Preciosa (*Mespilodaphne pretiosa*, Nees).—The wood, bark, and seeds, being odoriferous, are useful in medicine and the arts. The seeds, grated, are used internally for dysentery.

Pao-terra (*Qualea grandiflora*, Mart.).—The leaves are medicinal, and their properties have a high reputation in the province of Minas. The tree grows in the interior and the northern part of Brazil. A yellow colour is obtained from the fruit, which may prove of use in dyeing.

Pereiro (*Aspidosperma sp.*).—The leaves are fatal to animals which feed on them, but maize is said to be an antidote to the poison.

Pepino.—The sap is applied externally against rheumatic complaints, and internally in disorders of the stomach. It furnishes a resinous product which is used as a varnish.

Sucuuba (*Phimeria phagedemica*, Mart.).—The milky juice is used in the Amazon valley as a vermifuge, administered in coffee with castor oil. It is also applied externally in rheumatism, and for the cure of ulcers, boils, dislocations, &c.

Tamaquare.—A species of laurel. The balsamic oily sap is used for skin diseases, and an oil obtained from the seeds is said to cure herpes, rheumatism, and other complaints.

Tinguaciba (*Xanthoxylon spinosum*).—The bark and root are used in the southern provinces as an antidote to snake bites.

Uanany, a species of *Siphonia*, produces a black elastic gum, which is used in medicine as a vulnerary.

Umery (*Humirium floribundum*, Mart.).—From the distilled bark and wood a yellow limpid balsam is obtained of an agreeable odour, which is used in medicine, like the balsam of Peru, in cases of derangement of the stomach.

Uacauan-caa. — The leaves are used medicinally in cases of rheumatism, syphilis, and derangements of the stomach, and are considered an antidote to snake bites and other venomous poisons.

Uichi.—The astringent bark is used medicinally, and from the pulp of the fruits the natives obtain an oil, which they use for burning.

An Odd Epitaph.—The following epitaph is to be found in Braken churchyard, Shetland:—

He was a peaceable and quiet man, and to
All appearance a sincere Christian.
His death was very much regretted,
Which was caused by the stupidity of
Laurence Collochin Clothister, who
Gave him saltpetre instead of Epsom salts,
Of which he died in the space of three
Hours after taking a dose of it.

Patent Medicine Vendors.—An action for libel was lately brought against the *American Agriculturist* by a Dr. Ryan, a patent medicine vendor. Judge Brady, of New York, before whom the case was tried, gave the following opinion:—1. "A medicine that claims to be an antidote, but is not, is calculated to deceive, and is a fraud." 2. "The seller of a drug or medicine, who vends it with an unqualified statement of its efficiency, must take the consequences if his representations be untrue." 3. "That men should be held to a strict accountability who attempt to practise on the credulity of the afflicted." We fully concur in this interpretation of the law, that any man who buys a nostrum advertised to cure a certain disease, and is made worse, or is not cured, can bring suit and recover damages from the vendor of said nostrum. We trust that those injured, or not cured, will apply for damages in such numbers as to frighten these unprincipled men into propriety.—*Canada Lancet.*

ON SUPERSTITIOUS METHODS FOR CURING DISEASES.

By a Village Chemist.

THE village pharmacist is frequently brought face to face with many strange notions still in existence among the uneducated, superstitions that the town or city chemist probably has seldom heard of. One cannot help agreeing with the Education Act when listening to these tales of woe and witchcraft—as for instance, on many occasions the sorrowful mother, who has been compelled to witness the distress of her infant when afflicted with whooping cough, after asking for some simple remedy, tells us of some cruel or foolish plan which she has been trying to afford relief to her child. But the worst cases I have met with have been persons troubled with either chronic rheumatism or ague. It is sad when the head of the family, poor at the best of times (as all farm labourers are), is thus incapacitated from labour, with nothing for him to look forward to but the parish workhouse: afflicted thus in both body and mind, he is thankful to hear of any remedy, and will give anything a fair trial of which he may be informed, no matter how absurd or foolish it be.

A common remedy in many country districts for "aching rheumatics" is to wear about the person a piece of alder wood (*Sambucus nigra*). Note the conditions:—Any sort of alder will not do, or it might with ease be procured: it must be in the form or shape of a cross, and must have grown in consecrated soil, otherwise it is of no use. Not many years since I knew of a small alder shrub, actually growing upon the steeple of a village church, which was resorted to for charms far and wide. To such length was the credulity of the people carried, that large sums were paid to the sexton for crosses. The vicar could at first scarcely believe that persons were so foolish, but when he discovered the truth he speedily had this natural curiosity removed from the steeple, rather than countenance this superstition. Somewhat similar to the above is cutting the black hairs which constitute the cross on the ill-used donkey's back, and, after repeating a kind of prayer over it and wrapping it up in paper, binding it on the affected part: but few rheumatic patients, however, believe in this remedy.

Ague, perhaps even more than rheumatism, is one of the diseases to be cured by various charms. The poor spider is in this case in some instances needlessly tortured. A large house spider is secured in a silken bag, and worn round the neck; if death puts an end to its sufferings before nine days are expired, which I should suspect is almost always the case, the ague is said to be incurable. This charm is subject to variations—as, for example, the spider must be rolled up in butter and swallowed, and in some parts of Lancashire it is cruelly impaled on a thorn hedge, and when death puts an end to its sufferings the disease is said to depart. One of the most frequent methods is to tie the hair of the afflicted party to an aspen tree (*Populus tremula*), at the same moment repeating aloud, "Aspen tree, aspen tree, tremble thou instead of me." The leaves of this tree having always, even when not a breath of wind is felt, a tremulous motion, may have given rise to the idea that it might be useful in ague. Consecrated water taken from the baptismal font is held to be a panacea both for ague and rheumatism, but a condition is annexed to its use without which it is, of course, ineffectual. It should be taken from the church when the moon is at full, and drunk for seven days, or every evening when the moon is rising. It is generally believed that sudden fright will cure the ague. An old woman with whom I am acquainted, when of about middle age, was the subject of this malady. One day, when engaged in the hay-field, a neighbour ran to her, shouting that her cottage was on fire. The ague-stricken person left her work in great fear, and also ran towards her house, but she fortunately found it was a false alarm; yet she asserts to this day that she was completely cured, and has never since had a return of the disease. In the North of England another remedy is resorted to. A mole should be caught by the afflicted person, and, after skinning it carefully, the body must be dried by heat in an oven and then powdered, and as much as will lie upon a shilling must be taken for nine successive mornings in gin. I should think very few will care to try this remedy.

To speak of the numerous methods to eradicate warts from the hands would almost fill a volume. Some, however, which are well known we must not omit. One plan is to steal unobserved a small piece of meat from the butcher's shambles, and, having rubbed it over the warts, bury it, taking care it is done secretly. When the meat decays, the warts, it is said, will also disappear. So general is this belief that I have repeatedly heard intelligent persons say that they in this manner got rid of these unsightly things. Needless cruelty is often practised upon the unoffending black snail when it is applied to warts. The snail is secured when the moon is at full, and after rubbing over the warts it is fastened on a thorn, mostly the black-thorn, and there left to die and decay, when the same results follow as in the case of the meat. The farmer's boy has a different plan. He steals as many grains of wheat from the granary as there are warts on his hands; then, wrapping them in paper, he buries them in the earth. When a youth I recollect trying a charm with a cotton thread, first having ascertained the number of these excrescences. I then tied as many knots on the thread and buried it beneath an apple tree. It did not, however, succeed; perhaps I was like Thomas, faithless.

The whooping cough, that scourge of childhood, is often charmed by the fond mother. One expedient to get rid of it is to pass the little sufferer nine times under some kind of an ass. There appears to be in the minds of some people a great deal of veneration for the much-abused donkey, no doubt because Christ made use of it on his triumphant entry into Jerusalem. This superstitious remedy for the whooping cough is not confined to the ass, for infants are passed beneath a pie-bald pony for the same purpose. Not only so, but an idea exists that a man riding on such an animal has power to name a specific for its cure. Archbishop Whately, in his "Miscellaneous Remains," makes mention of this, that in some places entire faith is placed upon it; and on one occasion, when the man said jocularly to the distressed mother, "tie a rope round its neck," meaning "hang it out of its misery," he was promptly obeyed.

Remedies for hernia are nearly as numerous as for whooping cough, two only of which, similar in some respects, I will now mention. Blackberry, or bramble bushes (*Rubus fructicosus*), when suffered to grow unmolested will form long arching stems; these will take root at the extremity, and children are passed beneath the arch so formed when afflicted with hernia, the nine times condition being also often annexed to this superstition. In some of our English counties children are forced through an ash sapling before sunrise. To do this, the trunk of the young tree is split from the branches to the root, then the infant is passed through, afterwards the trunk is bound up; when it unites, the child is said to be healed. In Cornwall persons crawl beneath the bramble stems to cure boils.

There are also several methods for curing the cramp: the principal one in vogue with young persons is to wet the first finger of the right hand, and, stooping down, make the sign of the cross on the right foot. Coleridge, in his "Table Talk," tells us of a somewhat similar practice existing in Christ's Hospital, which he believed to have been in existence since its foundation in the reign of Edward VI. A boy, when attacked with cramp, would get out of bed, stand firmly on the affected leg, and making the sign of the cross over it thrice, repeat the following lines:

> The devil is tying a knot in my leg,
> Matthew, Mark, Luke, and John unloose it, I beg,
> Crosses three we make to ease us,
> One for the thieves, and two for Christ Jesus.

A dried eel-skin is sometimes worn about the person liable to its attack as a preventive—with what benefit I cannot say.

Jaundice is one of the diseases supposed to yield to charms and incantations. Berberry bark (*Berberis vulgaris*), in accordance with the old doctrine of signatures, is also a specific for this disease. The doctrine of signatures taught that the berberry, having a yellow bark or skin, was thought to resemble the yellow skin produced by the disease, therefore, homœopathically speaking, it was a true specific. This theory was fifty years ago carried to great lengths. The pretty and elegant little Eyebright (*Euphrasia officinalis*), a common plant on light sandy soils, has a small pink spot on the corolla, resembling the pupil of the eye; therefore this was supposed to be curative in all eye diseases.

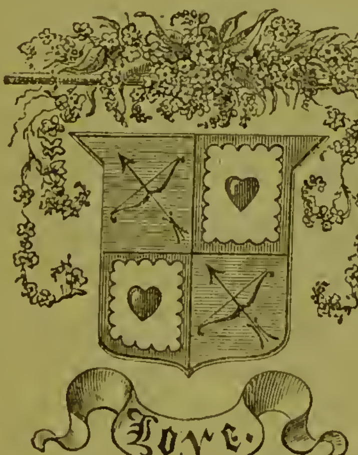
The most cruel thing I have yet to record is a remnant of the properly so-called dark ages, when superstition reigned supreme. It is not now practised; at least, the cases are few and far between, thanks to the Society for the Prevention of Cruelty to Animals. Epileptic fits make the person so afflicted an object of sympathy, nor can we blame their friends for trying everything recommended for their alleviation or cure; but it is not necessary to resort to cruelty. Our forefathers, when they observed a man fall down in a fit for the first time, immediately procured a black cock and buried it alive on the spot where the man fell. They supposed the person to be possessed with devils. This they might have derived from the Scriptures —by reading of analogous cases; therefore they sought to propitiate the arch enemy of mankind by offering what they thought was an acceptable sacrifice.

To promote easy teething in children, amulets formed from the henbane stem and root (*Hyoscyamus niger*), after being dried, are worn as necklaces. I have also seen the berries of the mountain ash (*Pyrus aucuparia*) thus worn. It seems strange that people can so far forget or put aside common honesty to further their superstitious feelings. Potatoes are frequently stolen—not in large quantity, certainly—only three or four are taken and hidden away in some secret place until they decay, for relieving the ague. Herbalists place much reliance on the manner or time in which many of their herbs are gathered. For instance, I was informed that their virtues were much stronger at the full moon; when collected in the wane of the moon they imagine all their properties are lost. Speaking recently with an old lady, she stated that if the common polypody (*Polypodium vulgare*) root, or rather rhizome, was plucked up when the harvest moon was at full it would cure the worst cases of fits, meaning epileptic fits.

NOTES OF NOVELTIES

RIMMEL'S VALENTINES

There are few prettier sights in London just now than Mr. Rimmel's stock of valentines for next month. The affectionate saint has never had such a devoted priest as the energetic Strand perfumer, who we may safely say has this year ransacked the world from China to Peru for novelties to lay on his altar. The most beautiful novelty this year, and one which we think has never been equalled, is the valentine with a sprig or half sprig of Brazilian feather flowers. These flowers are made in Rio Janeiro, and are composed entirely of the natural feathers of birds. They have not been dyed, but both leaves and flowers are produced with the most perfect fidelity as to colour and form. Nothing need be easier this year than literally to fetch a lady down with a feather. Other novel and interesting ornaments attached to valentines are sprigs of marine flowers from Trebizonde, exceedingly curious hair-pins, brooches, and cigar cases from Japan, filigree jewellery from Genoa, Bohemian and carved and painted Spa-wood ornaments. The Star and Garter valentine contains an elegant article of dress, chastely concealed under the motto, *Honi soit qui mal y pense.* There are besides the heraldic valentines, with allegorical emblems of affection drawn in escutcheons on moire antique, of the character indicated by the design at the head of this notice, an excellent series of shilling valentines, among which the Darwinian and other humourous specimens are included, and a hundred other varieties, ranging in price from the penny cards to the pearl-handled fan with rich lace for ten guineas, all of course delicately scented. If any chemist proposes to add valentines to his perfumery stock he will find Mr. Rimmel's assortment quite unequalled.

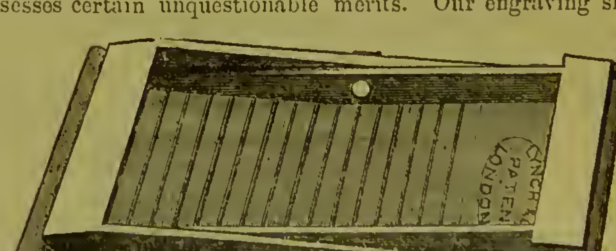


HAYWOOD'S SEAMLESS ELASTIC STOCKINGS.

We have before us a new Elastic Stocking, manufactured by Mr. Haywood, of Castle Gate, Nottingham, and we cannot examine it without recognising its superiority to the old form of these stockings. It is all woven in one piece, and, not having any seam at the back of the leg, or under the foot, the whole surface is perfectly smooth, thus avoiding the prominences which, in cases where elastic stockings are necessary, so often irritate the tender skin, and not unfrequently occasion abrasions. A seamless stocking presents other advantages also, which can only be appreciated by those for whom they are intended. Naturally, it wears out all over alike, while quite as naturally a stocking with a seam wears out just at the seam. Another practical inconvenience not unfrequently found by wearers of elastic stockings is that the binding comes off and the stocking must be left off for a day to allow for repair. In these there is no binding to come off. The maker also claims that, the india-rubber cord being worked into the stocking all in one piece, and helically instead of transversely, the stocking adapts itself more perfectly to the shape of the limb. These are certainly advantages worthy of attention.

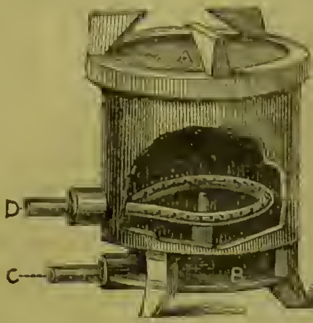
LYNCH'S PATENT POWDER FOLDER.

A powder folder recently patented by Messrs. Lynch & Co. possesses certain unquestionable merits. Our engraving shows it closed down, in which condition it can be slipped into a drawer or any shallow receptacle. When set up for use it stands firmly, and can be adjusted to any desired width. Further, each groove is numbered, so that a dispenser can at all times record the exact size of the wrappers of the powders he has sent out, which is not quite an empty advantage.



FLETCHER'S NEW LOW TEMPERATURE BURNER.

A convenient little Gas Stove, well adapted for daily use in pharmacy. It is provided with two jets, the higher one being a ring burner, and the lower one a single gas jet. It is thus described by the inventor:



This burner gives a range of heating power from a gentle current of warm air to a bright red heat, and is so perfectly under control that a common glass bottle may be placed on the tripod without protection and heated to any required temperature without the slightest risk of fracture. In practical use it dispenses with the necessity for drying closets, sand and water baths, &c., which are cumbrous and slow in working.

For very low temperatures the ring must be lighted through the opening B.: this causes a current of warm air to rise through the gauze above. For higher temperatures the light must be applied on the surface of the gauze A., which will give a large body of clear blue flame. A special pattern is made with a blast tube, by which the flame on the surface can be concentrated and urged until it gives almost a clear white heat, the temperature depending on the air supplied through the blast tube and the quantity of gas consumed.

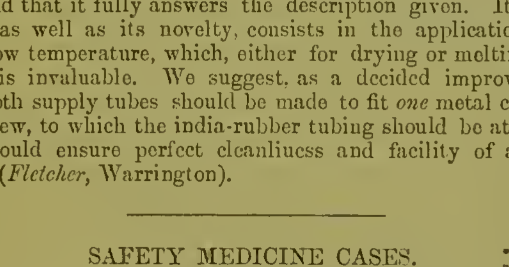
We have carefully tested the apparatus during the past month, and find that it fully answers the description given. Its chief merit, as well as its novelty, consists in the application of a very low temperature, which, either for drying or melting purposes, is invaluable. We suggest, as a decided improvement, that both supply tubes should be made to fit *one* metal connecting screw, to which the india-rubber tubing should be attached. This would ensure perfect cleanliness and facility of adaptation.—(*Fletcher*, Warrington).

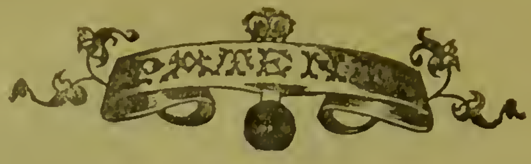
SAFETY MEDICINE CASES.

The want of some simple case for safely carrying a bottle of medicine while travelling, less expensive than the turned wood boxes which are now the only articles of stock for this purpose, has often been felt. Therefore, Messrs. Lynch & Co. have introduced a good-looking and sufficiently strong cardboard lined box which meets the requirement. These are adapted to 4 oz., 6 oz., and 8 oz. bottles, and can be supplied by the chemist for 6*d*., with a profit.

MATHER'S MARKING INK CASES.

Always ready to dash in where the fight is thickest, Mr. Mather has struck boldly into the marking ink contest. He offers his customers, with a certain quantity of ink, a bent glass case similar to that shown in our drawing. The case is really a very good looking one, and will make an effective addition to many counters.





[The following list has been compiled expressly for the Chemist and Druggist by L. de Fontainemoreau & Co., Patent Agents, 4 South Street, Finsbury, London; 10 Rue de la Fidélité, Paris; and 33 Rue des Minimes, Brussels.]

Provisional protection for six months has been granted for the following:—

3446. T. Dentith, of Manchester, manufacturing chemist. Improvements in producing or preparing indigo blue dye. Dated October 23, 1873.

3631. T. F. Lynch, of Aldersgate Street. Improvements in means for facilitating the folding of papers to contain powders and other matters. Dated November 7, 1873.

3692. A. Hess, of Dunster House, Mincing Lane, manufacturing chemist. Improvements in apparatus for extracting oil and fatty matters from animal and vegetable substances, and for recovering the solvent used therein. Dated November 13, 1873.

3717. B. Hunt, of London. Improved processes for the extraction of iodine. Dated November 15, 1873.

3768. A. G. Goulstone, of 1 Great Winchester Street Buildings. Improvements in the preservation of organic substances and in certain preserving materials or compounds employed therein, which preserving materials are also applicable to the cure of scab, foot-rot, and other cutaneous diseases in sheep and other animals. Dated November 20, 1873.

3799. W. A. Gilbee, of Finsbury, London. An Improved process for preparing ammonia from urine. Dated November 21, 1873.

3736. W. Darlow and H. Fairfax, both of 435 Strand. Improvements in magneto appliances and in magneto-electric apparatus for curative and other purposes. Dated November 18, 1873.

3805. W. Weldon, of Abbey Lodge, Merton, Surrey. Improvements in the manufacture of carbonate of soda, and in the treatment of compounds produced therein. Dated November 22, 1873.

3816. E. Apperly, of Stroud, Gloucester, dental surgeon. An improved manufacture of tooth brush. Dated November 22, 1873.

3892. E. Diver, of Caterham Valley, Surrey. Improvements in obstetric apparatus. Dated November 28, 1873.

3964. J. Clarkson, of Islington, dentist. Improved means of fastening, connecting, or securing artificial teeth. Dated December 3, 1873.

4017. W. Mather, of Manchester, pharmaceutical chemist and druggist's sundriesman. Improvements in apparatus used for the purpose of percolation or filtration of fluids or infusions, and the precipitation of bodies held in suspension in fluids. Dated December 6, 1873.

Letters Patent have been issued for the following:—

1934. R. Werdermann, of Princes Street, Surrey, civil engineer. An improved process for the conversion of chlorides and fluorides of alkaline metals and alkaline earth metals into oxides, hydroxides, and carbonates. Dated May 29, 1873.

1939. E. D. Risque, of Stockport, Chester. Improvements in the construction of bottles for containing aërated or gaseous liquids, and in stoppers for the same. Dated May 29, 1873.

1967. J. Townsend, of Glasgow, manufacturing chemist. Improvements in treating sewage or other liquids or substances containing nitrogen and phosphorus, or their compounds, in order to deodorize or precipitate the same, and obtain useful products therefrom. Dated May 31, 1873.

2102. D. G. Fitzgerald, of 6 Loughborough Road, North Surrey, electrician, and B. C. Molloy, of 1 Elm Court, Temple, Barrister at Law. Improvements in the production of chromic acid, compounds containing chromic acid, and certain other compounds of chromium. Dated June 13, 1873.

3187. N. Thompson, of Southampton Buildings, Marine Engineer. Improvements in means for stopping bottles and other similar hollow articles. Dated October 1, 1873.

3253. H. Deacon, of Appleton House, Widnes, Lancaster. Improvements in apparatus for the manufacture of chlorine. Dated October 7, 1873.

3329. T. A. Metcalfe, of Falsgrave, near Scarborough, York, and W. Massingham, of East Stockwith, near Gainsborough, Lincoln. Improvements in the manufacture of manure. Dated October 15, 1873.

3336. H. Deacon, of Appleton House, Widnes, Lancaster. Improvements in apparatus for the manufacture of alkali. Dated October 15, 1873.

3452. L. Bois, fils, of Lyon, chemist. An improved process of and apparatus for manufacturing caustic soda. Dated October 23, 1873.

Specifications published during the month:—
Postage 1*d*. each extra.
1873.

1205.	A. M. Clark.	Raising and measuring acids, &c.	8*d*.
1347.	E. Vignier.	Aerated beverages.	4*d*.
1353.	T. P. Hawksley.	Specula.	4*d*.
1354.	T. P. Hawksley.	Stethoscope.	6*d*.
1370.	A. M. Clark.	Preservation of alimentary substances.	6*d*.
1385.	M. H. Ivison.	Sheep dip.	4*d*.
1406.	J. Arnold.	Instrument for vaccinating.	4*d*.
1451.	A. J. Amnéus.	Preparing medicines.	4*d*.
1522.	T. Nixon, and another.	Manufacture of sulphate of soda.	4*d*.
1689.	C. Caspers.	Purifying crude anthracene.	4*d*.
1786.	A. E. Fletcher.	Manufacture of carbonates of soda and potash.	4*d*.

THE SOUTH LONDON SCHOOL OF PHARMACY.

Christmas Dinner.

THE teachers and students of this flourishing institution, with a few friends, dined together at the Horns Assembly Rooms on Friday evening, December 19, and spent a lively and most agreeable evening. More than a hundred sat down to dinner, Dr. Muter (the director of the institution) presiding, and Mr. Baxter (the secretary) occupying the vice-chair. After a good old-fashioned English Christmas dinner, succeeded by a fine flow of hot punch, a long and varied programme of songs, speeches, recitations, &c., was carried out under the direction of Mr. Hayho, the well-known toastmaster. A "Students' choir" started the proceedings by singing a "grace after meat," and then the usual opening toasts were given by Dr. Muter, and duly honoured. "The Army, Navy, and Volunteers," was responded to by Major the Hon. J. Colnorne, who warmly complimented and congratulated all engaged in the study of the science of chemistry. The toast of the evening, "Success to the South London School of Pharmacy," was proposed by Dr. Muter, and received with tremendous applause. The speaker traced the progress of pharmaceutical education from the foundation of the Pharmaceutical Society until 1868, when the examinations were made compulsory. Until then the School of Pharmacy in Bloomsbury Square had been almost the only institution of the kind in England; and no doubt, with such teachers as Pereira, Bentley, and others, it had done good work. But until recently it had never been called upon to stand the test of opposition, and the consequence of applying that test by the South London School of Pharmacy had been that torrents of abuse had been poured upon the school some two years since at the Brighton meeting of the Pharmaceutical Conference. This was Christmas time though, and was not the season for recriminations; more than that, in the face of their success, they of the South London School could well afford to laugh at the extraordinary statements made about them. This year they had entered over 400 students, and of all they had sent up for examination only about 40 had been returned to them plucked. This success was due to the application of a rigid system of education, which every man could understand. They required strict regularity, and never showed favour to any student. The reason that so many men from the South London School passed the examinations was because they were taught to a higher standard than was necessary, and it was the consciousness of this extra knowledge that gave confidence to the candidates when they appeared before the examiners. Nevertheless, Dr. Muter thought the examiners had been ill-advised to raise the standard of the examinations. Assistants were already scarce, and with the present inadequate remuneration they were not likely to come forward. Some people had spoken of "cramming," and in certain quarters by "cramming" seemed to be meant any system not pursued at the institution they might happen to direct. They had been accused of taking young boys and "cramming" them up for the examinations, although they knew nothing practically of the business. Now it happened that if they took anyone who had never been in a shop they charged double fees, and they also stipulated that students should have passed the preliminary examinations before coming to them. Were such men as Mr. Iuce or Mr. Carteighe likely to be blinded by superficial knowledge? The examiners generally were such men as they could respect. They were chemists, and could judge when they had a man before them who knew his business. Such men they could respect, but they did not fear them. The students of the South London School of Pharmacy, past and present, were a united body, and if it ever became necessary to use their political power, they could start an engine little dreamed of. But they had no wish to interfere. All they asked for was a fair field and no favour.

This toast was received with immense applause.

"The Successful Candidates," was proposed by Mr. Baxter, and replied to by Mr. Edmondson.

"The Unsuccessful Candidates" was next given by Dr. Muter, and responded to in a very pleasing manner by Mr. Greathead. He said it was very hard for an Englishman to have to acknowledge failure, and he himself, and those for whom he spoke, felt it hard. He hoped the others around him would not have to say the word; for his part, he should try again until he did succeed.

Mr. Bailey proposed "Our Welsh students" in an amusing speech. He commented on the remarkable proportion of Welshmen in the school, and also on their general success. Mr. Lloyd replied.

Dr. Muter proposed the Press, and took occasion to mention the value of the Corner for Students and other features of the Chemist and Druggist. Alluding to the recent citrate of magnesia case he said that the defendant made no attempt to use the plain language of his certificate that the article sold was not citrate of magnesia at all. He (Dr. Muter) had since induced the vestry not to commence proceedings against several chemists from whom samples of the article had been obtained. The managers of the South London School of Pharmacy had unanimously resolved to offer to Mr. McDermott a free scholarship until he should pass his minor. This toast was acknowledged by the representatives of the Chemist and Druggist and of the *South London Press*.

Mr. Twist, the Chairman, the Vice-Chairman, and the Visitors were also toasted, and Mr. Williams gave the following:—"The Chemist—may his occupation never become a drug in the market as long as he sticks like his own plasters to business. May he never be bruised in the mortar of adversity by the pestle of misfortune, and may his rise in his profession be as accurately marked as his graduated measures. May his career be as unsullied as distilled water, and as smooth and pleasant as pure Narbonne honey. May his success never be alloyed by a mixture of ill-luck or a tincture of regret. May his counter prove a crucible wherein he transmutes human ailments into precious metal and precipitates the golden deposit into his own pocket. May he never be called on to swallow the bitter pill of disappointment, or be macerated in the cruel spirit of enmity. Should fickle fortune ever refuse him her smiles, may he find an antidote in the soothing opiate of woman's love, be strengthened by the tonic of experience, and purified by the sudorific of patience. Thus—his best days being evaporated, and the lamp of existence past trimming—when Dr. Death sends to his shop the dreadful prescription endorsed, 'to be taken at bedtime,' may he be found 'carefully prepared,' accurately dispensed, permanently entered in the day-book of memory, neatly put up in the white wrapper of purity, sealed with the melting tears of loving friends, stamped with the trade-mark of honesty, and duly labelled and directed for heaven."

The students' choir sung several times in the course of the evening, and other songs, recitations, and musical performances were given by Messrs. Bailey, Williams, Canuing, Hartland, Gilkes, Greathead, Lloyd, Jones, Park, and Taylor.

The following is a stanza of a special song composed and sung by Mr. Williams to the air of the *Chanson Politique* of "Madame Angot."

Once the "exam." was quite a "corker,"
Bloomsb'ry Square was chok'd with slain,
Till Dr. Muter cried "Oh, walker!
Such slaughter musn't occur again!"
The batt'ring-ram of Patient Study
'Gainst the fortress was brought to play,
No more the field was torn and bloody.
The Institute's System had won the day!!!
So the "passed" men swagger it proudly.
The Doctor vociferates loudly—
"Tra, la, la, la! dear boys you are
Real pharmaceutical Swells!!!"

The party separated just in time to avoid colliding with the Licensing Act.

Obituary.—We much regret to have to record the somewhat sudden demise of Henry Taylor, Esq. (of the firm of Taylor Brothers, the well-known cocoa and mustard manufacturers), at his residence, Brookland Villa, Maida Vale, on the 7th instant, in the 67th year of his age. The deceased was actively engaged in business up to Christmas-eve, and his speedy death will be heard with great surprise by a large circle of sorrowing friends. It is scarcely necessary to add that Mr. Taylor will be long remembered for his gentlemanly bearing and sound business habits, as well as from being a leading buyer in the London cocoa market.

THE CHEMIST AND DRUGGIST

COLONIAL BUILDINGS, CANNON ST., LONDON, E.C.

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Subscribers are requested to observe that the receipt of THE CHEMIST AND DRUGGIST in a *Green Wrapper* indicates that with that number the term of subscription has expired, and that no further numbers will be sent until the same has been renewed. We issue the notice very respectfully, not that we distrust our Subscribers, but simply because we find it impossible to keep an immense subscription list like that we now have, extending to almost every town in the world, in order, without an exact system like this.

FOREIGN AGENTS.

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AUCKLAND	,, Kempthorne, Prosser, and Co.
BOSTON, U.S.	,, Office of "Boston Journal of Chemistry."
CALCUTTA	,, Bathgate and Co.
CHICAGO	,, W. A. Weed and Co.
DUNEDIN	,, Kempthorne, Prosser, and Co.
MELBOURNE	,, Felton, Grimwade, and Co.
MONTREAL	,, Evans, Mercer, and Co.
NEW ORLEANS	,, E. J. Hart and Co.
NEW YORK	Mr. P. M. Sherwood, 117 John Street.
PHILADELPHIA	,, W. M. Dickson, 619 Walnut Street.
SAN FRANCISCO	Messrs. Bancroft and Co.

Terms for Advertisements over the Leaders may be obtained on application to the Publisher

WE beg to inform our foreign subscribers that the partially unstitched condition in which they receive this journal is in accordance with a regulation of the English Post-office. In common with our contemporaries, to all of whom the same law applies, we are totally ignorant of the purpose of this vexatious rule. We have in vain protested privately against a regulation which compels us to appear before our readers somewhat untidily; and now we feel it due to ourselves to make this public explanation.

DOMESTIC FILTRATION.

"WITH regard to the Silicated Carbon Filters, I have made many experiments upon them, and have been astonished at the energy and rapidity of their action. I passed through a small Filter of this make some of the worst description of water supplied by the London Water Companies, and found it, after filtration, to have become as pure as the very best London water. My experiments show that the Filter exercises a decomposing action—a chemical action—on the Organic impurities in Drinking Water. I have no doubt that water, which is dangerous from the Organic Matter contained in it, becomes *safe* on passing through the Silicated Carbon Filter. A point of some importance, shown by my experiments, is that a Second Filtration still further improves the quality of Drinking Water. After being in use for a considerable period, Filters lose their power and require renovation. I have found that the passage of a little Hot Water through the Silicated Carbon Filter, and afterwards blowing a little air through it, restores its power."

J. ALFRED WANKLYN, M.R.C.S., London,
Formerly Professor of Chemistry in the London Institution;
Joint Author of a Book on Water Analysis, and of the Ammonia Process.

POROUS BATTERY CELLS

OF SUPERIOR QUALITY.

PATENT PLUMBAGO CRUCIBLE COMPANY,

Sole Makers of Morgan's Patent Crucibles,

BATTERSEA WORKS, LONDON, S.W.

RENDALL'S THEOBROMINE,

OR

CONCENTRATED COCOA.

THE Purity and Excellence of this Cocoa is obtaining for it an increasing demand.

Sold by most respectable Chemists in 1*s.*, 2*s.*, 3*s.* 9*d.*, and 7*s.* 6*d.* tins.

To be obtained through the Wholesale Houses, or direct from the Proprietor,

J. M. RENDALL,

28 Queen Street, Exeter.

VICHY WATER COMPANY,

27 MARGARET STREET, REGENT STREET,

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General Depôt for all Mineral Waters.

EDITORIAL

BRITISH OPIUM POLICY.

MR. J. W. PEASE, M.P., offers very handsome prizes for the best and second best essays on "British Opium Policy and its Results to India and China." The announcement, with full particulars, occurs in our advertisement pages. Sir Charles E. Trevelyan, Sir H. Bartle Frere, and Sir Louis Mallet, will act as adjudicators. It is stated that they will be guided less by literary merit than by the value of the information conveyed, and of the conclusions arrived at. We hope Mr. Pease's liberal offer will arouse considerable attention, and will call forth such a competition as will serve to place this important subject on the footing which it ought to occupy.

QUALIFICATIONS FOR CHEMISTS UNDER THE ADULTERATION ACT.

IN an address recently given by Mr. E. C. C. Stanford, F.C.S., as President of the Chemical section of the Glasgow Philosophical Society, a reference was made to the Adulteration Act, and Mr. Stanford correctly summarised the qualifications essential to the chemical officer on whom the responsibility of prosecutious rests as being "not only the most consummate facility in ordinary analysis, but a large experience of trade, and a perfect knowledge of Materia Medica, and of the sources or manufacture of all our necessities." Who is sufficient for these things?

TECHNICAL EDUCATION.

A "Yorkshire College of Science" is to be established at Leeds, with the especial object of supplying technical scientific instruction for those engaged in the various industrial occupations for which the county is so famous. Professors of chemistry, engineering, physics and mathematics, and geology and mining are to be established, each with minimum stipends of 300*l.* a-year. The Clothworker's Company, of London, has offered to endow a professorship of textile fabrics with a similar salary. The scheme promises well.

ANCIENT MATCHES.

Edgar Poe once wrote a humorous sketch in which he introduced an Egyptian mummy, which was revived after the sleep of ages, in the society of some half-dozen smart Yankees. The moderns thought to surprise the old sage by a recital of nineteenth century marvels, but the latter was astonished at nothing unless it were the clumsiness and imperfections of our scientific discoveries and inventions. Even the Great Republic failed to startle him, and not until they touched on Brandreth's pills, and their curative virtues, was the mummy "closed." This fancy might have been founded on fact, for antiquarians despise the sacredness of modern notions, and one by one our favourite monuments of progress are being hurled down. In the *American Chemist* Dr. Carington Bolton upsets our pleasant fiction that lucifer matches are a recent invention. He has discovered, in an old alchemical work written by Michael Sendivojius, and published at Frankfort in 1604, translated from the Latin, and published in English by J. French in 1650, the following curious passage, which occurs in the chapter "Of Sulphur":—

"Then they took that sulphur which the alchymist found, and they did what the alchymist would have done: they began to work divers ways, and to make experiments of sulphur in divers strange kind of furnaces which the alchymist had; but in the conclusion of every operation there was brought forth nothing but matches such as old women usually sell to light candles withall." And on the same page again: "The alchymist also being awaked out of his dream found nothing in his hand but matches which he made of brimstone. . . . and so that miserable alchymist learned nothing else by that vision but how to make matches."

From these quaint old sentences it is evident that brimstone matches were at that period common articles of household economy.

Not content with this, Dr. Bolton has also traced references to sulphur matches in the writings of Pliny, Martial, and Juvenal. The quotation from Martial is very curious. It occurs in his Epigrams, lib. i. ode 42, "Ode to Cæcilia," and runs thus—

"Hoc quod Transtiberinus ambulator,
Qui pallentia sulfurata fractis
Permutat vitreis."

Thou resemblest those unfortunates who wander in the quarter beyond the Tiber [the other side of the Tiber was to the elegant Romans a quarter corresponding with our New Cut, or Ratcliffe Highway] exchanging matches for broken glass.

Authority for translating "sulfurata" *matches* is found, says Dr. Bolton, in Andrews's Latin-English version of William Freund's Latin-German Lexicon, also in Theil's French version of the same edition of 1865, where "sulfurata" is rendered *allumettes*. We must try to comfort our wounded pride with the reflection that our ancestors had not advanced to the civilisation of safety matches which ignite only on the box.

AMENDMENT OF THE ADULTERATION ACT.

Representatives of the Birmingham grocers had an interview with Mr. Muntz and Mr. Dixon on the 8th instant on this subject. Mr. Dixon said that as this was especially Mr. Muntz's Act, he should leave him mainly to reply to the remarks made. But he added that, so far as he could judge from the spirit of the House of Commons, there would be every disposition to rectify any injustice the grocers suffered from by the operations of the Act.

Mr. Muntz said he was very gratified to find that as a body the grocers agreed that the Adulteration Act ought to be carried out. What they wanted was that it should not be enforced to their injury and disadvantage. The working of the Act, as a whole, had been decidedly beneficial to the public. In the West-end of London the adulteration of tea was almost abandoned; but in the East it was as bad as ever. He stated that ingredients were found in tea that were not known in China; and the man who wilfully adulterated an article ought to be punished. An eminent lawyer told him that the remedy lay with the grocers themselves, as they could recover damages in respect of a fine inflicted and injury to trade and character caused by selling tea proved to have been adulterated before it was received by them (the grocers) from the importers. As far as having a committee of the House of Commons to inquire into the subject, he was perfectly willing and ready to do anything to serve them. He thought such a committee might be very beneficial. He did not think they were ready for it yet. It would, perhaps, be better to wait until a new Parliament was elected. If it pleased the town to re-elect him, he would move for a select committee, and he had no doubt they would get it.

Mr. Muntz's co-operation in a rectification of the Adulteration Act would unquestionably be very valuable. But if the price of an act of justice on his part is to be his re-election for Birmingham, as his last sentence seems to indicate, tradesmen had better trust to other quarters.

The grocers of Sheffield recently drew up a forcible memorial in reference to the Adulteration Act, which was presented by their representative to the Local Government Board. The following reply was received from the secretary of that office:—

"I am directed to state that the personal attention of Mr. Stansfeld has been given to the representations of the memorialists, and that he entertains no doubt of the necessity which exists for an amendment of the statute referred to. Mr. Stansfeld will, therefore, carefully consider the best means of ascertaining what alterations in the law are required, in order that its practical working may be rendered both just and successful; and he will be happy to receive from you any suggestions as to the mode of accomplishing this object."

We hope chemists and druggists will not fail to notice this. Their interests are seriously endangered by the Act as it stands at present, and it is highly important that no time should be lost in, first of all, arriving at a clear conception of the modifications they wish for, and, secondly, in submitting their views to Mr. Stansfeld. It seems to us that the only means of avoiding such unseemly burlesques of legal proceedings as have been exhibited in the recent citrate of magnesia and spirit of nitre cases is to expunge drugs altogether from this Act, and then, if need be, for the protection of the public, to provide a special Act, and entrust to a special and competent authority the duty of checking the purity of medicines. As we have said before, we have no wish to shield any dishonest chemist and druggist; but the trade has a right to demand that it shall not be subject to ignorant and vexatious prosecutions whenever an analyst may choose to say, with the French king, *Parceque c'est mon bon plaisir.*

LAVOISIER AND THE METRIC SYSTEM.

From an article by Mr. H. W. Chisholm in *Nature*, we gather that the eminent French chemist, M. Dumas, is likely soon to give to the world some important documents which will show the active part taken by Lavoisier in the foundation of the Metric System.

Although his name does not appear in the list of the original Committee of Weights and Measures in France, yet it is shown that he was very actively engaged in making the arrangements for their meetings and in preparing the minutes of their proceedings, as appears from papers and letters in his own handwriting. It was through his personal agency that funds were provided at Paris for continuing the measurement of the arc of the meridian in Spain by Méchain. And, more particularly, all the actual comparisons for determining the length and dilatation of the standard measures used by Méchain and Delambre for measuring the bases, and known as the *Règles de Borda*, were made, not by Borda, but by Lavoisier. The subsequent computations only were made by Borda. Lalande has expressly stated that the work of preparing them was executed by Lavoisier and Borda, but that the construction of the measures of platinum and brass, forming metallic thermometers, and of the comparing apparatus used, was carried out under Lavoisier's directions. Another very important part of the work, the determination of the weight of a cubic decimetre of water, was carried out, in the first instance, chiefly by Lavoisier. This branch of the operation had been specially entrusted by the Committee to Lavoisier and Haüy. The necessary apparatus was constructed under Lavoisier's directions, and all the requisite measurements and weighings of the cylinder were made by Lavoisier and Haüy. Hitherto few details of the actual processes of this scientific determination have been given to the public, and the whole credit of determining the weight of a cubic decimetre of water, upon which the kilogram, the unit of metric weight, was based, has been attributed to Lefèvre-Gineau, to whom, in conjunction with Fabbroni, the work was entrusted after Lavoisier's death. In point of fact, Lefèvre-Gineau appears to have repeated, in the winter of 1798–9, all the observations made by Lavoisier and Haüy five years before, using the same instruments and obtaining nearly similar results.

This was the man who, condemned to death during the Reign of Terror, because he had once held a royal appointment, asked for a fortnight more of life "to finish some experiments he had in hand." The Republic did not care for his experiments, but chose his head. M. Dumas may well adorn his sepulchre.

COD-LIVER OIL.

Our French correspondent recently reported a curious legal case in which arose the question whether cod-liver oil was a medicine or a food? The tribunal, we believe, decided that it was the former. A similar question arose in New York some years ago, and quite recently something approaching a decision seems to have been reached. The origin of the dispute was that about 1865 a New York firm imported 2,700 gallons of cod-liver oil, and entered it as fish oil, under the reciprocity treaty between England and the United States. It was claimed by the custom house officials that cod-liver oil when imported was a medicinal preparation, subject to a duty of 30 per cent. ad valorem, and an additional duty of 10 per cent. under section 6 of the Act of July 6th, 1862, making the total duties $960 in gold. After eight years' delay, the attorney for the Government has consented to a discontinuance under the rulings of the judge, though another suit is threatened.

NEW EDITION OF THE "BRITISH PHARMACOPŒIA."

Some premature announcements have been made about the appearance of the new edition of the "British Pharmacopœia" before the close of the year. The *addendum*, as it is called—an ugly word, which we yet hope to see changed to the much better English of *appendix*—is now in proof; but it has to be examined by some thirty different pairs of eyes, and all have to be brought into harmony. The book will hardly be ready long before our next issue. With respect to this appendix, we gather from the *British Medical Journal* that it will not exceed twenty-four pages altogether. Yet it will be found to include most articles of interest and approved use which have come into notice lately. Among them are the following:—Tinctura ipecacuanhæ; a new tinctura aurantii recentis (from fresh bitter orange-peel); a syrup of chloral; suppositories of tannic acid, morphia, and carbolic acid, with soap; Succus hyoscyami, made of the fresh leaves and young branches of hyoscyamus (now well recognised as a most efficient preparation), and a Succus belladonnæ similarly prepared; the hypophosphite of soda; a compound of elaterium powder, made by rubbing 10 parts of elaterium with 90 parts of sugar of milk; a compound jalap pill, made with resin of jalap and of scammony, and soap, strong tincture of ginger, and rectified spirit; a formula for pepsin; a formula for making phosphorated oil, by dissolving phosphorus in oil of almonds; a solution of citrate of magnesia (*Limonade purgatif*); an excellent solution for the hypodermic injection of morphia, the acetate being formed by the process in the proportion of 1-12th of a grain to each minim; yellow oxide of mercury; a fluid extract of liquorice; mustard papers, to supersede the ancient mustard plaster; oxide of bismuth; and nitrite of amyl. It will be seen that the list is comprehensive, although eclectic.

We shall look forward with much interest to the appearance of the work.

WATER IN LEADEN PIPES.

Some alarmist physicians and chemists of Paris have recently added one more to the multifarious causes of terror which combine to give the special charm to existence in that gay capital A *guerre au plomb*, as it has been called, has been declared, the leaden pipes conveying the drinking water to the houses having been distinctly accused of occasioning—first, impregnation of such water with saturnine salts, and, secondly and consequently, lead cholic in certain of the consumers thereof. So strongly has this been urged by some eminent chemists, and of course the sensation has been taken up by some of the journals, that serious talk ensued about changing the whole of the lead conduit pipes for iron ones. To ascertain exactly the danger and its extent resulting from the use of lead, Messrs. Belgrand and Le Blanc, of the Academie of Science, undertook a very exhaustive investigation. Nothing could be more complete or re-assuring than their report. They have taken water from all parts of Paris, and have not found the slightest trace of lead. They have also found that only when water is perfectly pure can it have any action on lead. Even rain water, unless exceptionally pure, had no effect on the metal. For these experiments a small stick of lead was immersed in the water, and allowed to remain several days in contact with the air. None of the ordinary waters of Paris were affected in the least degree. The presence of an infinitesimal proportion of salts seems to occasion a deposit which perfectly preserves the metal from attack. This fact is not new, but we are not aware that it has previously been so thoroughly settled.

AGASSIZ.

The *Scientific American* gives an interesting sketch of the late Professor Agassiz. He was born in Motiers, Switzerland, on May 28, 1807, his father and indeed his ancestors for six generations back being clergymen. Originally beginning the study of medicine, he entered the medical school at Zurich; thence he went to Heidelberg, and finally, at the age of twenty, began a course at the University of Munich. Subsequently becoming deeply interested in a work that he was selected to perform, namely, the classification of a variety of fishes brought back by a Brazil exploring expedition, Agassiz gave up the practice of medicine, though not until after he had obtained his doctorate both in that art and in philosophy. His course during the following years was upward; for, becoming a favoured pupil of the great Cuvier, and enjoying the association of such men as Owen, Milne-Edwards, and others of equal eminence, he laid the basis for his establishment of fossil ichthyology and its translation to a cognate from a hitherto unknown science. Aided by Baron Von Humboldt, he was enabled to publish his great work, in which about 1,000 species are fully described, and 700 more partially so, and thus to firmly establish his fame as a naturalist. Then came the enunciation of his glacial theory, the assertion of the existence of a vast sheet of ice which overspread existing continents, leaving its tracks behind. The view has been vehemently opposed, but it has triumphed, and is now an accepted scientific fact. In 1846 he emigrated to the United States. Accepting the chair of zoology and geology in Harvard College, he began the endeavours which culminated in the establishment of the Cambridge Museum (the most extensive of its kind in the world) and the education of scores of able and learned students of natural science.

His Cambridge Museum was built by private subscription, and his celebrated voyage up the Amazon was carried out through the munificence of a Boston millionaire. Did he need a State appropriation, he fairly charmed it out of the stingiest of legislatures; and, indeed, a Massachusetts law maker at one time opposed his being allowed to press his request in person, for the reason, as stated, that no opposition could stand before him. Penikese, with the princely sum accompanying, was the gift of one unskilled in science. And the few enthusiastic *extempore* speeches made by him in San Francisco, after the Hassler voyage, brought forth the unexampled donation of Mr. James Lick, and gave science on the Pacific coast an inestimable assistance. He gained friends by thousands simply by his smile. "We want you to come and beam upon us, that is all," said a friend who had arranged a social reception for him in Washington. "Agassiz came," said his entertainer, subsequently, "and merely shook hands. There was nothing formal, but he beamed on everybody with such a pleasant smile that it seemed as if he were diffusing happiness through the whole company." And yet, with all his success in the cause of education, it is even the more remarkable that he persistently refused to use his efforts for his private ends. "You would make any amount of money in the business," urged a wealthy capitalist who was desirous of securing Agassiz as a partner, and using his great technical knowledge for commercial enterprises. "I have no time to make money," replied the Professor. Similar to this was his answer to a publisher who pressed him to write text books for schools. "I wrote them," said he, and his eyes sparkled with indignation, "that I was not the man to do this sort of work. And I told them, too, that the less of this work was done, the better. It is not school books that we want, but students. The book of Nature is always open. All that I can say or write shall be to make them study that book, and not pin their faith to any other." These were not the only brilliant offers, pointing to almost unlimited wealth, which he rejected, while his salary was only $1,500 a-year.

THE OPIUM TRADE.

In his annual review of the opium trade, Mr. Mann makes some remarks which are especially worthy of the attention of large buyers, especially export buyers. He says:—

> More "puddings," or made-up stuff, have come to hand than ever. At first, an outlet was found for a considerable quantity for export, but it deteriorated by keeping, and much has been thrown back on buyers' hands; it is being slowly re-sold for morphia-making at a considerable loss. Buyers have set their faces against this stuff, and it is to be hoped this highly improper trade will be stopped. One feature this year has been the admixture of this stuff in both druggists' and shipping parcels, apparently good, some cases containing as much as 50 per cent., and the rest genuine; several considerable parcels now in stock are like this.

With regard to Persian opium, Mr. Mann also remarks:—

> We have had very little of this description; some 50 cases were received in March, and were taken principally for manufacturing purposes in the States. Lately some more have come to hand, and have been nearly all sold for export at 14*s.* to 18*s.* 6*d.*, as in quality. Some has been imported on private account. This description of drug is only fit for working, and while the secondary sorts of Turkey are cheap, manufacturers cannot afford to pay for Persian prices equivalent to those current in China. The cost of working Persian opium, on account of its oily character, is much greater than Turkey drug.

POISONING BY VINUM COLCHICI.

A dreadful case of poisoning on a large scale occurred at Montreal, on November 27, 1873. From the particulars published in the *Canadian Pharmaceutical Journal* we gather the following:—"A few days previous to the date above mentioned, Messrs. Evans, Mercer & Co., wholesale druggists, sent to a customer a bottle containing a half gallon of vinum colchici. The customer, finding that he had already a sufficient quantity on hand, decided on returning that last received. This was accordingly done; but the carter in whose charge it was placed reported to his employers next morning that the bottle was missing, and that, as it could not have dropped off the sleigh, it must have been stolen. This appears to have been the case, as it was ascertained that a man named Flaherty and a little boy, both residents of one of the lowest localities in the city, extracted the bottle from the sleigh and took it to their residence in Tubb's Yard, where it was examined, and the contents pronounced to be sherry. Acting on this supposition, some of the denizens of the place helped themselves pretty plentifully; nor were they undeceived until a little boy, to whom a mugfull had been given, was suddenly taken ill, and, in a short time, died. Consternation spread rapidly amongst those who had partaken of the death-dealing liquid, and the feeling was tenfold increased when it was discovered that six more persons were evidently under the influence of the fatal draught. Medical men were promptly in attendance, but the poison had too surely done its work, and ere long five more persons were numbered among its victims. These included the man Flaherty, another man, and three women. The symptoms of poisoning were those of colchicum—constant vomiting and purging, accompanied with violent abdominal pains. The pulse was weak, but rapid, running as high as 120 and 130. Consciousness was, in general, retained almost up to the time of death.

The position of medical adviser to the tribe of Tulare Indians in California is vacant. The late incumbent had entrusted to his care a number of sick Indians, all of whom, unfortunately, died, upon which a grand council was held, and the medicine man was condemned to death, and promptly executed.

CHEMICAL SOCIETY.

Thursday, December 18th, 1873.

PROCEEDINGS of the Chemical Society, Dr. Odling, F.R.S., President, in the Chair. The customary business of the Society having been completed, a Paper "On the Preparation of Standard Trial Plates to be used in Verifying the Composition of the Coinage" was read by the author, Mr. W. C. Roberts, Chemist of the Royal Mint. After giving a sketch of the variation in composition of the English gold and silver coins from the earliest times, he noticed the various trial plates which had been prepared since 1660, showing that they sometimes varied considerably from the standard of 916·66 parts in 1,000 for the gold, and 925·0 for the silver. He then proceeded to describe the process employed, and the difficulties to be overcome in the preparation of the new standard trial plates. These were exhibited at the meeting, and also a magnificent specimen of pure crystallised gold.

The other Papers read were "Researches on the Action of the Couple on Organic Bodies: Part IV., on Iodide of Allyl," by Dr. G. H. Gladstone and Mr. A. Tribe, being a continuation of their investigations on this subject; "On Tetranickelous Phosphide," by Dr. R. Schenck; "On Ferrous Anhydrosulphate," by Mr. T. Bolas. This compound, which is crystalline, is precipitated on mixing an aqueous solution of green vitriol with about nine times its volume of concentrated sulphuric acid. The last Paper was "On the Hydrochloride of Narceine," by Dr. C. R. A. Wright, after which the meeting was adjourned until Thursday, Jan. 15, 1874, when the following Papers will be read:—"On the Action of Trichloracetyl Chloride on Amines: I. Action on Aniline," by Dr. Tommasi and Mr. R. Meldola. "Researches on the Action of the Copper-Zinc Couple on Organic Bodies: Part V., on Ethyl Bromide," by Dr. J. H. Gladstone and Mr. A. Tribe.

SUNDERLAND CHEMISTS' ASSOCIATION. ANNUAL DINNER.

THE annual banquet of the Sunderland Chemists' Association was held on December 3, at the Palatine Hotel, and proved in every respect an enjoyable and successful one. Ald. Thompson, the President of the Society, occupied the chair, supported on his right by Dr. Potts, Dr. Barker, Dr. Horan, J. J. Nicholson, Esq., and R. Robinson, Esq.; on the left by Dr. Yeld, medical officer, A. Thompson, Esq., Dr. Wolford, jun., R. Heming, Esq., D. B. Sharp, Esq., J. Hartriers, Esq., and T. B. Gilhome, Esq. Mr. H. Thompson discharged the duties of vice-chairman. Among those present were Messrs. Thos. Burn, J. J. Hills, Francis Clarke, Charles Lord, T. Priestly, J. Mitchenson, H. Turnbull, Sayers, Sauderson, Cockburn, Robt. Brewis, Chapman, R. Wilkin, and Harkness. The Chairman said the senior member, Ald. Candlish, who was in France, had written to express his sorrow that he was not able to be present with them on this occasion. The jun. member, Col. Gourley, likewise apologised for absence, as also did our worthy mayor. He then proposed the toasts of "The Queen, and the Prince and Princess of Wales," which were drunk with due honours. The Chairman next proposed the "Army, Navy, Militia, and Volunteers," and paid high compliments to each of these departments of the service. Dr. Potts, in an eloquent speech, responded for the Army, Navy, and Militia, while Lieut. A. Thompson ably replied on behalf of the Volunteers. In proposing the health of "The Mayor and the Members of the Corporation," Mr. R. Robinson spoke of the progress the town had made in the course of the past few years, and hoped that there would still be greater advance in the future, and that the new town hall would be an honour to the town. The Chairman replied. Mr. Mitchenson proposed "The Ladies" in a graceful speech, and Mr. T. Burns, in an equally graceful style, responded. Mr. Sharp, in proposing "The Medical Profession," said he was glad to see so many medical gentlemen present, and he hoped their intimacy would continue to increase. The professions of chemist and surgeon, as they were all aware, were most intimately connected, and no doubt each had done something to develop the other, since the days when the physician prescribed toads, eels, serpents' tongues, and other abominable things. There was no doubt that medicine had advanced in proportion to the discoveries made in chemistry, and the time was coming when the people would act on the philosophy of "prevention is better than cure." As greater attention was paid to sanitary arrangements and the laws of health the less would be required of doctor and drugs. In this conviction he might state that he was pleased they had got an efficient medical officer in Dr. Yeld, who would look well after the sanitary state of the town. Mr. Sharp next alluded to the question of medical men dispensing, and concluded by hoping that the time was not far off when the doctor would merely prescribe, and allow the chemists to have their legitimate work of dispensing. Dr. Horan replied, and dwelt on the progress made in pharmacy, and, in alluding to the question of general practitioners dispensing, said they should, if possible, give it up. Nothing, he remarked, was more arduous, after a hard day's work, than for a medical man to have to begin and prepare medicines, but when the members of the profession gave up this work, they would, of course, expect chemists to cease prescribing. Dr. Yeld next proposed "The Sunderland Chemists' Association," coupled with the name of Mr. J. J. Nicholson, its worthy secretary. Mr. J. J. Nicholson briefly replied, and said the number present indicated that the profession of the chemist was advancing in this town. Mr. Harrison Thompson, the Vice-chairman, then proposed the health of the President, and said that Alderman Thompson was not only admired by his fellow-chemists, but by all who knew him, for his kind and benevolent disposition. He had been the very life of the society, and had spared neither trouble nor expense in keeping it together. On all important occasions when their interests were at stake he was first at the meeting and last to leave. They were deeply indebted to Alderman Thompson, and he hoped he might long be spared to preside over their meetings. After returning thanks, the Chairman said he had only one object in view in relation to their association, and that was to promote its success, and thereby improve the status of its members. Referring to his own career in the profession, he said he had attained his position through industry and perseverance, and he hoped he would not be the last chemist who would occupy the post of chief magistrate of the town. The young members of the profession had now a splendid chance to gain scientific knowledge in chemistry, and he hoped some enthusiasm had been that evening kindled in them, and they would go forward with the intention of mastering the science. In a short time, he believed that the chemists would cease to deal in little things, and become solely compounders of medicine. After again thanking them for their kindness, he resumed his seat amid much applause. A few other toasts followed, and completed a long programme.

THE ADULTERATION OF TEA.

THE number of *Food, Water, and Air* for November contained a report by Dr. Hassall on the "Adulteration of Tea," and particularly of Caper, a black tea, largely used for mixing with other teas in many parts of England, and especially in the northern counties. It was therein shown that of the twenty samples subjected to analysis, all but one, a sample of Foochow Caper, were adulterated. They were all faced or coated with plumbago, or black lead, and they all contained, in variable quantities, lie tea, silica, or sand, including particles of quartz and stone, and magnetic oxide of iron, sometimes in very considerable amounts. *Food, Water, and Air* for the current month contains a second report on Tea Adulteration by Dr. Hassall, the chief particulars in which may be thus summarized. The report deals chiefly, but not entirely, with green tea, but it also gives the results of analyses of samples of scented Orange Pekoe, and of a sample of "siftings." The Pekoes, like the Capers, were all coated with plumbago, and one of them on analysis was found to contain lie tea, sand, and magnetic oxide of iron. The siftings were also much adulterated with silica, or sand, and there were separated from it, by means of the magnets, no less than 8·80 per cent. of magnetic oxide of iron. The eighteen samples of green tea, chiefly Gunpowder, like the Capers, were taken without selection, and like them they represent very large bulks of consignments of tea, mostly from different ships, and which have very recently, for the most part, been offered for sale and purchased. The whole of these eighteen samples, on analysis, were found to be adulterated: sixteen were faced with ferrocyanide of iron or Prussian blue, turmeric, and a white mineral powder, and the other two with the Prussian blue and the white powder only; besides which sixteen of the samples were adulterated with variable, but often large, quantities of lie tea, silica, particles of stone and quartz and magnetic oxide of iron. The following particulars relate to one only of the samples, but the results arrived at in the case of the other samples are very similar, except that the quantities differ. "Gunpowder tea, highly magnetic, containing 35·23 per cent. of lie tea, earthy matter, partly inclosed in the folded leaves. Faced with Prussian blue, turmeric, and the white powder. Ash of the whole tea, 33·49 per cent., containing 4·47 per cent. of iron, and 19·19 per cent. of sand and stony particles. Ash of the lie tea 39·97 per cent. There was extracted by the magnet from the powdered tea 8·76 per cent. of magnetic oxide of iron."

The substances used in the facing of the tea, it was found, added from 1 to 3 per cent. to the weight of the tea, these substances being wholly extraneous to tea, and serving no useful purpose whatever therein, but helping to cover up, conceal, and to render possible certain other still more serious adulterations; and which, if not positively hurtful in themselves, must yet be looked upon as so much added dust or dirt, helping largely to the consumption of the proverbial peck of dirt. The iron present was found to consist, in all cases, of the magnetic oxide of iron, and in no instance were "iron filings" found; and it now appears that, notwithstanding all the statements made and promulgated as to the frequent presence of iron filings in tea, they are of rare occurrence, even if they are ever found therein. The quantities of magnetic iron, &c., actually extracted from several of the teas were as follows:—1·98, 5·57, 2·94, 8·76, 1·94, 2·85, 1·92, 3·17, 1·13, and 1·30 per cent. The quantities of silica, sand, and particles of stone and quartz found in the whole tea varied from 2·52 to 19·19 per cent., and the ash of the lie tea ranged from 13·13 to 46·01 per cent.

Of "lie tea" the following definition may be given. It is a specially fabricated article, consisting of tea-dust or the dust of leaves not tea, sand, stony particles, and often magnetic iron, mixed up into little masses or pellets by means of some adhesive material, and finally faced to imitate Caper and Gunpowder teas.

From these analyses it is therefore evident that the practice of adulterating green tea widely prevails, and is of a very shameful character. As was the case with the Caper teas reported upon by Dr. Hassall, most of the green teas now examined came from Canton, which place is the great centre and focus of the adulteration of tea. This fact is perfectly well known to all who have anything to do with tea—merchants, brokers, wholesale and retail dealers—and who, therefore, have no just right to urge in extenuation the plea of ignorance. The merchant who wants genuine tea would scarcely go to Canton for it; and if he did go there at all, this very circumstance would alone tend to prove that what he actually required was something very different from genuine tea. Besides, the British merchant's interests in China are protected, we believe, in all cases, by the presence at the several places of manufacture and export of carefully-trained experts, on whom it would be impossible to impose; so that when such rubbish as were many of the samples here reported upon are purchased by English houses they know well what they are buying, not only from the samples themselves, but from the prices which they pay for such so-called tea.

REVIEWS

RUBBISH AND ITS USES.[*]

"Friends," says Teufelsdröckh, "trust not the heart of that man for whom old clothes are not venerable." "Silent," he says, "are they, but expressive in their silence: the past witnesses and instruments of woe and joy, of passions, virtues, crimes, and all the fathomless tumult of good and evil in the prison men call life." If Mr. Simmonds, the writer of the book before us, were only a little more sentimental, we should say he would be a man after Teufelsdröckh's own heart. Not only old clothes of every description, but all kinds of refuse, waste, and unemployed natural production, have for this author a peculiar charm; and in the book now before us, as well as in numerous papers and other labours, Mr. Simmonds has shown how much is done and can be done by simply studying the uses of what we are too ready to call rubbish. By this application of ingenuity to the heaps of waste which not long ago encumbered all our manufactures, and poisoned the health of the dwellers around those factories, the wealth of the world has been increased many fold, and doubtless it is in this direction that scientific research will find its most prompt rewards. The great discovery of the present century—for which mankind is chiefly indebted to chemistry—is, that nothing is lost in nature. To assimilate manufacturing processes to this wonderfully perfect system, which we can trace around us, has been at once the aim of many workers and the foundation of many fortunes. How this sort of investigation affects the world's wealth is strikingly illustrated by a short paragraph which we quote from the introductory pages of this book:—

> The annual consumption of madder is about 47,500 tons, worth more than £2,000,000. The principle extracted from this dye root is alizarine; and artificial alizarine is now produced from anthracene, one of the coal-tar products. Thousands of acres of land in Alsatia, now devoted to the culture of madder, may on account thereof be restored to agriculture. It is thus that a simple experiment in a laboratory can affect the destiny of whole provinces, and divert into new channels capital long invested in important enterprises.

To get the idea of this economy well impressed on the world's mind seems to be about the main purpose of this work. But, apart from its "lesson," it is, as such a book must be, singularly interesting reading. Our only complaint is, that the author has not sufficiently divided his subjects. After an introduction, in which occurs a very interesting account of the destiny of old clothes both in London and Paris, we have just three enormous chapters, classifying all wastes in the most natural manner possible—namely, animal, vegetable, and mineral. In the first division, for instance, we glide along through offal to horseflesh, hair, milk, rabbit skins, dead rats, butter, guano, fish oils, old shoes (it requires a moment's consideration to remember that these are in their right division), marine insects, eggs and feathers. This is by no means an exhaustive list, but it is just what occurs to us on reaching the end of this division. The mass of information, real news to most of us, collected on these subjects is something surprising. The occasional suggestions of the author are not invariably happy, especially when he says he "cannot help thinking that a nice plump young rat, fried or roasted, and served up with good gravy and other condiments, would make a very delicious dish." The rat question seems to be a favourite one with Mr. Simmonds, and it will, perhaps, please some readers to know how serviceable these interesting animals are. We will quote a paragraph or two:

> As civilisation advances, human ingenuity is severely taxed to supply man's natural and artificial wants. Our grandfathers would have said that the destructive vermin which infest our cellars under the name of rats would be the last thing which could ever be turned to a useful purpose. Even the fine lady of the present day, who piques herself on her exquisitely fitting gloves, would give one of those little shrieks which she thinks so sweetly feminine if told that the thumb of her glove was made of ratskin, as more elastic yet tougher than kid. The nineteenth century, in fact, sees rats elevated to an article of commerce. In Europe the fur of the rat is used by hatters, having been found to exceed in delicacy even that of the beaver. A company exists in Paris, on the principle of the Hudson's Bay Company, to buy up all the rats of France. Even in London many persons earn a livelihood by hunting rats in the sewers.
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> There is a common pound in Paris, covering some ten acres, surrounded by a stone wall; and to this all dead [horse] carcases are brought. The bones of these animals are valuable, but then to be saleable they must be clean, divested of adhesive and often putrid flesh. To perform this operation by hand is both expensive and tedious, and, as rats were found to be fond of horse-flesh, the authorities have colonised this horse-pound with rats by thousands from the catacombs of Paris, and they perform their work beautifully, so that the dead carcase put in over night is found a neat and polished skeleton in the morning. But, as may be supposed, rats so well provided for rapidly increase; hence they have to be kept under.

We could make an almost endless series of quotations from this book; but what we have said will show that in our opinion it is one of considerable value. There are several problems yet awaiting solution in this magnificent field of the utilisation of waste, which rise up before us as we write, and it is well that these should be kept well in the front of men's thoughts. The chief example is our daily waste of sewage, a loss which figures can hardly estimate, and which can only be judged by saying that, properly utilized, we could almost support another globe full of inhabitants. Then there is the fact (no rhetorical fancy, but hard dry fact) that families are half starved in Europe for want of meat, while meat is rotting only on the other side of the planet. When we look at what has been done, even in these two problems, we see no reason to doubt that this century will not pass away without witnessing their final solution; and these spheres for enterprise and activity, and similar ones, are open to all the world, and each, when conquered, will yield a harvest of wealth and comfort which will compensate for many failures.

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[*] *Waste Products and Undeveloped Substances.* A synopsis of progress made in their economic utilisation during the last quarter of a century at home and abroad. By P. L. SIMMONDS. London: Hardwicke.

MAKING MONEY BY PATENTS.*

Mr. Barlow deserves our best thanks for showing us in this little book the bright side of the picture relating to inventors and patents. He writes as though it were the easiest thing in the world to make money by patents, providing, of course, that you take the trifling precautions first of all of inventing something of value, secondly, of having or getting sufficient capital to work the same with, and thirdly, of employing a good agent to secure your patent rights in valid form. It would be well, we think, if the first of these provisos had been brought more prominently to the front. The amount of time and money muddled away in patents must be something terrible, and to a certain class of imaginative Englishmen Southampton Buildings possess a fascination corresponding in character to the charms of Monaco. No sanguine genius, renouncing steady labour for the precarious chances of an inventor's life, ever thought his idea other than a good one. Let it be the most crazy scheme that ever entered into the heart of man to conceive, an inventor easily comes to believe in it with fanatic faith, and clings to that faith with a noble persistence even after all his funds and all his friends have failed him.

This kind of adventurer we have generally considered more like the real type of a patentee than the patient, hard-working genius triumphing ultimately over all difficulties who is Mr. Barlow's favourite ideal. But we have no dispute with this author. His book, of which the third edition is now before us, is lively reading, and we would strongly recommend it to anyone who thinks about obtaining a patent It is only a shilling, and contains some sound practical advice and a good fund of information. The tincture of optimism which pervades the book is all that the intending patentee need guard against. But this the author somewhat justifies in the following paragraph, which is not without force:—

> Sir David Brewster, who was a scientific man of high eminence and also a patentee, in his evidence before a committee on patents, stated that in his belief a wholly worthless patent had never been taken. By that he doubtless intended that even in the most crude speculations of theorists, or in the wildest dreamings of enthusiastic mechanics and chemists, there were to be found grains of wheat, mixed, it might be, with much chaff, but that these grains struck root in seasonable time and germinated. The alchemists of old were the fathers of modern chemistry, and much of the progress made by modern mechanics is due to the unrequited labours of men of genius, who imagined what were in their days considered vain things.

The suggestions as to how to work a patent profitably are shrewd and business-like. To inventors looking out for capital to carry out their idea the writer remarks, with some *naïveté*, that "the search may be made in any direction. Perhaps the least likely to aid are those connected with the trade affected by the subject matter of the invention. *Capital is often advanced by clergymen, ladies, and retired tradesmen.*" Mr. Barlow is evidently acquainted with the weakest sections of human nature, but it is cruel, to say the least, to openly point to them as the prey of every hungry inventor. How to proceed, and how not to proceed, are very forcibly illustrated by the comparison given, which, according to our own experience, is very well founded, between the methods of exploitation adopted in this country by American and French patentees. The former

> literally come, and see, and conquer all difficulties. They usually come well primed. They bring with them machines which will work, or a dozen rifles which will shoot with accuracy. They proceed to visit the centre of the trade they wish to deal with, and by perseverance, energy, and tact, they succeed in accomplishing their object. Cannot Englishmen follow their example? How few do! The Frenchman is not so fortunate. He is prolific of inventions, but on the whole rather unsuccessful in his undertakings here. He certainly labours under depressing difficulties. He rarely speaks the language, even imperfectly; his knowledge of English trade is very limited. He is usually accompanied by an interpreter, whose knowledge of the English tongue is little superior to that of his employer. And they get on indifferently. Monsieur, too, usually asks a most exorbitant price for his invention—one hundred "tousan" pounds or so. He seems to think English wealth illimitable, and that he has only to ask to receive. So, after a short sojourn in this uncongenial atmosphere, he returns a sadder and wiser, but not a wealthier, man, and his invention falls into the category of lapsed patents.

A valuable appendix to Mr. Barlow's book is the synopsis of the patent laws of all countries with which it concludes. It may be of interest to mention here that France grants patents for all inventions, except pharmaceutical preparations, while medicines are also excluded in Austria, Saxony, and Italy.

DR. MUTER ON MATERIA MEDICA.*

A book especially written to meet the requirements of a particular class rarely if ever is exactly suited for the general public. This remark applies to the "Key to Organic Materia Medica," recently issued by Dr. Muter.

The compiler states in his preface that "the ensuing pages are intended as short notes and memoranda, to remind the student of the salient points about each article as he handles and examines it in the museum." It must be admitted that the work now before us performs the functions thus assigned to it exceedingly well. It is to be regretted, however, that the arrangement of matter is not such as to recommend itself to *general* students. For instance, one who is not conversant with, nor has access to, Dr. Muter's museum, would naturally ask why the seeds of Strychnos Nux Vomica, a plant of the sub-class Corollifloræ, should be placed first on the list, and be succeeded by the seeds of Croton Tiglii, of the sub-class Monochlamydeæ, and it in its turn by one of the Thalamifloræ. The answer is, of course, that such an arrangement is peculiarly adapted for Dr. Muter's museum, but we heartily wish that a classification according to the natural system had been adopted, and so have rendered itself intelligible to students generally. Another fault in the arrangement is that the various products of the same plant are found in widely different parts of the book; thus, colchicum seeds on page 10, and the corms on page 114.

We are glad to see at the commencement of the book explanations of such terms as alkaloid, glucoside, gum, gum-resin, oleo-resin, resin, &c. Such explanations, *ab initio*, clear a great deal of difficulty from the path of the young student who in his reading may alight upon the terms, and experience considerable difficulty in obtaining a clear idea of what they mean. We cannot, however, quite agree with Dr. Muter in stating that a glucoside must necessarily be a *neutral* body.

The compositions assigned by Dr. Muter to the various articles of the Materia Medica are, on the whole, concise and correct; but we fail to reconcile the two statements, that the yield of resin from scammony root "is about seven per cent." (p. 38), and that "good scammony root contains about four per cent. of resin" (p. 54). We are also sorry to see that Dr. Muter clings to the old erroneous idea that aloin is a glucoside; and we are certainly astonished to hear that myrrh contains *twenty-five* per cent. of volatile oil.

It must be said that when means of distinction between two somewhat similar drugs are given that they are unusually clear and distinct; but, unfortunately, these means are not always given—thus, croton seeds "are distinguished from castor seeds by size and appearance." A country student, who may possibly have seen neither, would naturally wish to know whether they are smaller or larger, and what *is* the distinctive appearance.

We do not wish to mislead the reader as to the value of this book if we point out a few of the peculiarities existing in it. Amongst them are the statements that anthemis *m*obilis is the source of chamomiles; acacia ara*bia* partially of gum arabic; roccella tinctor*i* of litmus; and calletris quadri*valis* of gum juniper. We hear with some surprise that "an *inferior* Burgundy pitch is made by melting resin, stirring in a little palm oil, water, and yellow ochre," and we regret that no mention is made of chondodendron tomentosum as the source of true Pareira root. In the botanical description of aconitum napellus a curious contradiction is met with—viz., that it is a "*herbaceous* plant," but has "a *perennial* erect stem." We could have wished that Dr. Muter had paid a little more attention to the orthography of some of the terms; for instance, we meet with apocarp*us* fruit (p. 47), fruit of the pomegranate, a bal*u*sta (p. 75), quin*a* (p. 69), i*nn*uline (p. 92), black he*le*bore (p. 117), peta*ll*oid (p. 47), and hypogenous stamens (p. 123). We hope that most of these can be attributed to printers' errors, but we must say that the terms "precipitable" and "extractable" are not elegant.

The absence of all verbiage throughout the whole of the book is especially to be commended, but we think that conciseness is carried to too great an extent when we meet with the following statement concerning gamboge:—"Adulterations—fragments of wood and starch—the latter detected by turning green with iodine." Now we are fully aware that a *cold decoction* of gamboge with starch would turn green on the addition of a *solution* of iodine; but perhaps these necessary conditions would not suggest themselves to a young and inexperienced student upon reading the above.

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* *How to make Money by Patents.* By Charles Barlow. London: Marlborough.

* *A Key to Organic Materia Medica.* By Dr. John Muter, F.C.S. London: William Baxter. 1873.

It is to be regretted that some modification of the arrangement of the type had not been adopted, so as to separate the various articles of the Materia Medica. Thus we find that after the preparations of one substance are mentioned, another follows on the succeeding line without any interval whatever. As we before stated, we have no wish to detract from the merits of the book by mentioning the above peculiarities, for we can honestly say that it is well suited for the purpose for which it has been compiled, that it contains a large amount of information compressed into a small space, and that with some modification of type and arrangement it would be a great assistance to students generally.

THE YEAR-BOOK OF PHARMACY, 1873.

We have received from the Officers of the Pharmaceutical Conference an early copy of the "Year-Book of Pharmacy for 1873." It has come into our hands too late for critical notice this month, but we have had time to read and greatly admire the able introduction, occupying about 16 pages, in which the editor has again presented a summary of the progress of the more scientific departments of pharmaceutical investigation. We trust the Conference will be fortunate enough to secure an editor who will worthily continue this annual labour. We are also glad to observe that the report of the Conference dinner, which has occupied a considerable space in previous volumes, is this year eliminated. Pleasant as these *réunions* are, a record of them is somewhat out of place in a volume of this character. We are still disposed to think that the book might be rendered more interesting, and not less valuable, if a little more attention were given to the every-day wants of the pharmacist. The information, for example, given in Part IV. (Notes and Formulæ) might have been expected to be of a more practical character than it is. Only 24 pages are given to this department, and though the subjects vary from waggon grease to croton chloral, there is but little that will be useful to a chemist and druggist for after reference. A competent summary of the drug and chemical markets, such as the American Association always makes prominent, would be quite worth adding, and no doubt there are many gentlemen in the Pharmaceutical Conference with sufficient commercial as well as scientific ability to give such a *résumé* with the necessary thoroughness.

Literary Notes.

The *Lancet* says: "The Chemist's and Druggist's Diary makes us a little jealous. It is already well known and well patronised by those for whom it is intended."

The Americans have announced a new journal in our line, to be entitled the *Tennessee Pharmacal Gazette*. It is to be edited by Benj. Lillard, Phar. D., and Thos. Black, M.D.

The *Medical Times and Gazette* records the death of its chief editor, Dr. Francis Cornelius Webb, from *angina pectoris*, at the early age of 47. Having just finished the last number of his journal for 1873, Dr. Webb returned home, and died that night. Several writers in the same journal render affectionate tributes to his memory.

We have received from Messrs. Letts, Son, & Co. (Limited) a few specimens of their well-established diaries. Although we have the honour to be ourselves, as producers of special diaries, somewhat *en concurrence* with Messrs. Letts, this must not hinder us from saying that the Limited Company to whom the large business of Letts, Son, & Co. was recently transferred is evidently able and determined to continue the enterprise of the old firm in an equally thorough manner, at any rate as far as diaries are concerned.

An esteemed friend in New York has sent us a copy of a translation of the "German Pharmacopœia" just published in Philadelphia, by David D. Elder & Co. Mr. C. L. Lochman is the translator. We are a little ashamed that an English rendering of this important work should have to appear on the Trans- instead of the Cis-Atlantic shore. It is probable, however, that the German population of the United States will give the translation a better chance of success there than here. It is very faithfully and scientifically performed.

CONDUCTED BY RICHARD J. MOSS, F.C.S.

The announcement of another exercise in Toxicology will doubtless be received with pleasure. The substance to be examined shall consist (as on previous occasions) of a mixture of flour and linseed meal, and it may contain a well-known metallic poison.

The mixture is to be subjected to such an examination as is required to detect the suspected poison.

Students who wish to compete should send us their names and addresses before the 20th instant. On the 26th we shall forward the samples.

Students' papers will be received up to the 15th of the following month.

Answers.

The mixture which formed the subject of the last exercise contained 2·5 per cent. of arsenious anhydride, or common white arsenic. It will be remembered that when lead acetate was the poison to be detected very few succeeded in detecting it, although the quantity present was 4 per cent. In the present case the poison has been detected in very nearly every case, although present in a much smaller quantity. In both cases, however, the metallic radical was of course the important constituent to be found; and it so happens that 4 parts of lead acetate and 2·5 parts of arsenious anhydride contain almost equal quantities of the respective metallic radicals; so that the sensitiveness of analytical methods is not so much in favour of arsenicum as would at first sight appear from this comparison. At the same time, there can be no doubt that the quantity of arsenic might have been considerably reduced before its detection would have become as difficult as that of the lead acetate.

We have already drawn attention to the principal precautions to be observed in the application of Marsh's and Reinsch's tests; and we pointed out that the re-agents required are liable to contain arsenical impurities. It is necessary to refer again to the latter subject, in order to put our contributors sufficiently on their guard against error from this source. It is well known that the most useful of the metals—iron—is very widely diffused in nature—indeed, it is said to be the most widely diffused of all the heavy metals. Now, it is a curious fact that small quantities of the metal arsenicum are almost invariably associated with iron as it occurs in the inorganic world. One of the numerous mineral substances containing arsenicum is the iron pyrites used in the manufacture of sulphuric acid. In the ordinary process employed in the preparation of this acid the volatile arsenicum is simply transferred from the iron ore to the sulphuric acid, in which it appears to exist in the form of arsenious acid. When the impure sulphuric acid is employed in the preparation of hydrochloric acid the arsenicum passes as a volatile chloride into the hydrochloric acid. The removal of the arsenical impurity from these acids is not very easily accomplished, so that it is quite a common thing to find traces of arsenicum in the acids commercially known as pure. It is therefore a matter of the first importance to examine these and other suspicious re-agents with great care when testing for this easily-detected metal. Reinsch's test answers very well for the examination of the hydrochloric acid. It is well to remember that the sensitiveness of this test is diminished if the pieces of copper foil are too large in proportion to the quantity of dilute acid operated upon; for in this case a small deposit of arsenicum being distributed over a large surface may pass unobserved. The best plan is to employ a fragment of foil only large enough to enable one to see a change of colour distinctly, and to devote a reasonable amount of time to the experiment.

This exercise fully illustrated the importance of carefully observing the behaviour of the substance under examination with different solvents. The water with which the mixture was first treated was found to contain an arsenite, showing that a soluble or partially soluble arsenite was present. Then the marked reaction of the dilute hydrochloric acid solution showed that the arsenious compound was much more soluble in hydrochloric acid than in water; thus indicating the probable absence of alkaline arsenites and presence of arsenious anhydride.

PRIZES.

The First Prize for the detection of the poison has been awarded to

Frank W. Young, 40 Blacks Croft, Dundee.

The Second Prize has been awarded to

Frank Leslie Phillips, 100 Islington, Birmingham.

Marks awarded for Analyses.

F. W. Y. (*1st prize*)	100
F. L. Phillips (*2nd prize*)	98
England	97
S. P.	97
A. J. P...	97
A. Widdell	96
A. J. C.	96
T. E. G.	92
H. J. Jackson	90
G. T. J.	90
Brevitas	90
C. St. C.	89
C. W. H.	86
Labor Omnia Vincit	86
J. S.	84
F. A. C.	84
W. A. B.	83
S. C.	83
W. B. B.	82
C. J. B.	80
H. Arnold	80
W. T.	80
C. F. P.	77
H. C. Corke	75
H. J. P.	75
F. L.	73
J. B. Hickley	70
Chemicus	25
W. Coles	20
L. H. W.	20
Delta	—
F. E. B...	—

TO CORRESPONDENTS.

*** All Communications should include the names and addresses of the writers.

Prizes.—The students to whom prizes are awarded are requested to write at once to the publisher, naming the book they select, and stating how they wish it forwarded.

Any scientific book that is published at a price not greatly exceeding half-a-guinea may be taken as a first prize.

Any scientific book which is sold for about five shillings may be taken as a second prize.

F. W. Y.—Your paper was very creditable. You deserve to be congratulated on your success, considering that this was the closest competition we have had as yet.

F. L. Phillips.—You might have improved your paper by making it more concise. The matter was very good.

England.—We found the aqueous solution distinctly acid to test paper. The organic matter alone, however, would account for an acid reaction.

S. P.—Your paper, as compared with the prize papers, was not sufficiently exhaustive. Unfortunately your quantitative work does not count anything extra in your favour. Owing to the circumstances of most of our contributors we are obliged to confine ourselves to qualitative analysis.

C. W. H.—Your paper shows considerable improvement, and indicates clearer ideas of analytical methods than appeared from your former communication. You should be more particular to mention the conclusions drawn from each experiment, instead of leaving us to do all the reasoning.

W. A. B.—The reason why you got no deposit on the copper boiled in the aqueous solution was because hydrochloric acid was not present.

S. C.—Before you commenced the examination for acidulous radicals, you should have considered what was the probable state of combination of the arsenicum. A little reflection often saves a deal of useless work.

W. B. B.—Your plan of deciding whether it was an arsenious or arsenic compound that was present was based on an erroneous idea. You should have examined a solution containing the unaltered poisonous compound. The arsenical deposit on the copper, from whatever source obtained, consists partly of metallic arsenicum, and partly of an alloy of this metal with copper. When this deposit is volatilized in the glass tube, it oxidizes, and is deposited on the sides of the tube as arsenious anhydride.

C. J. B.—You should not have left the state of combination of the arsenicum an open question. There was no real difficulty about settling this point.

C. F. P.—It does not follow that the sublimate obtained by heating the stained copper in a glass tube was arsenical because it did not form globules when rubbed: it might have been antimonial.

J. B. Hickley.—See remarks to S. P. about quantitative analysis.

Chemicus.—Iron was undoubtedly present, to a very perceptible extent, but you will find it is a normal constituent of the organic matter.

William Coles.—Dilute acid solutions of arsenic compounds do not give the deposit on copper, as is the case with arsenious compounds.

L. H. W.—We carefully repeated the test by which you detected copper, but failed to get any indications of the presence of that metal.

Delta.—It does not appear that you followed out any regular plan in your examination. You unfortunately omitted to name the poison which we presume you supposed you had detected.

F. E. B. We regret that the vague information which your paper conveys about your work does not enable us to point out the source of your error.

B. O. W. L.—You must not suppose that a few hints will make you an accomplished analyst. A few years of hard study might do so, if you are not very stupid. What text-book do you use? Roscoe and Jones's "Junior Course of Practical Chemistry" is an excellent little book for a beginner, and would probably be the best companion for you for the present.

Provincial Reports.

GLASGOW.

The fourth meeting of the Glasgow Chemists' Association was held in Anderson's University on Wednesday, December 24, 1873, at 9 p.m. Mr. John Currie, President, in the Chair.

The minutes of the previous meeting having been confirmed, the Chairman stated that it was intended to have the annual festival a month earlier this session, and that the election of members of committee should be proceeded with.

Mr. I. McG. Murdoch suggested that the festival might take the form of a *conversazione*, or a supper and ball. Mr. L. A. Clarke, secretary, strongly objected to Mr. Murdoch's suggestion, as he feared that a considerable amount of difficulty would attend the getting up of a *conversazione*, while the pleasure attending a supper and ball could, for obvious reasons, only be participated in by a limited number. He therefore proposed:—"That the festival again take the form of a soiree and ball."

Mr. Kinnimont seconded the motion.

Mr. Murdoch, seconded by Mr. Foster, moved as an amendment:—"That we have a supper and ball."

On the amendment and motion being put to the meeting, it was found that the majority were in favour of the motion. The following gentlemen were then elected a festival committee, viz.:—Messrs. Hunter, Brodie, Fenwick, Murdoch, Fotheringham, Wallace, Galbraith, Young, McDonald, Ritchie, Cleghorn, Bardsley, Paterson, Garry, and Foster, with power to add to their number.

A discussion on "the Adulteration Act" then followed. Mr. Alex. Kinnimont, in an able and interesting speech, loudly condemned the said Act, and thought its workings in connection with the drug trade had been so ridiculous and unjust that every chemist in the kingdom should do his utmost to get it repealed. Referring specially to the "citrate of magnesia" prosecution, he did not see how that we, as chemists, had any right to alter the name of an article such as "citrate of magnesia," which had been known to the public for so many years. At any rate, he for one did not intend to change it, and he would further state that if any prescription for *cit. mag. eff.* should chance to come to him he certainly should give the so-called article, and that, in his opinion, no chemist would be justified in doing otherwise.

Messrs. Hunter, Brodie, and the Chairman also joined in the discussion, the Chairman remarking that it would be well for chemists to be on their guard in the meantime, and he really thought that for their own safety they should make some change in their cit. mag. labels, in order to keep within the letter of the law.

The meeting then separated.

LIVERPOOL CHEMISTS' ASSOCIATION.

The sixth general meeting was held at the Royal Institution, Colquitt Street, the President, Dr. Charles Symes in the chair.

The usual preliminaries having been gone through, Mr. Henry J. Blackburn was elected a member, and Messrs. Arthur C. Jones and Edward E. Rowlands were elected associates. Several donations to the library were announced.

This being the first meeting devoted absolutely to the interest of students in Pharmacy, Dr. Symes opened the proceedings with a short address on "Study," which was full of practical advice and hints to students how best to succeed in their desire to become pharmaceutical chemists.

Mr. James T. Armstrong, hon. sec., then read a Paper on "Pharmaceutical Education," remarking that when 233 out of 414 candidates for examination were plucked, as was the case at the Pharmaceutical Examinations last October, it was high time to discuss the subject.

In the short discussion which followed students did not take part, as requested. A vote of thanks to the contributors of the Papers finished the business of the Association for 1873.

LEGAL & MAGISTERIAL.

THE LAW RESPECTING COMPOSITIONS.

A CASE was decided by the Chief Judge in Bankruptcy on December 15th of some importance to the commercial community. Messrs. W. H. Glover & Co., towel manufacturers of London and Manchester, liquidated their debts in January last by agreeing to pay 11*s.* in the pound—5*s.* in four months, 3*s.* 6*d.* in seven months, and 2*s.* 6*d.* in nine months. At that time there was a disputed claim of 7,381*l.* on some bills of exchange. Legal advice was to the effect that this debt could not be proved against the estate, therefore it was not included as a liability. Afterwards, however, an action being taken, the debt was proved. The debtors had paid the rest of their creditors the first instalment, and would have paid the balance, but this heavy addition to their burdens upset their ability. They therefore offered an additional 2*s.* in the pound, which was accepted by nearly all the creditors. But the law is generally that a debtor having made an arrangement and failing to meet any of the instalments, thereby cancels the arrangement and becomes liable for the original full amount. In this case the Radcliffe Investment Company, originally creditors for 782*l.*, refused to be bound by the new agreement and took proceedings for the full amount of their claim, minus the instalment already paid. The County Court Judge of Manchester decided that, under the circumstances, the Company could not substantiate their claim. On appeal the Chief Judge in Bankruptcy confirmed this decision, on the ground that an accident had occurred, which justified the creditors in "varying the provisions of the composition as previously accepted by them." This was in accordance with the Bankruptcy Act, 1869. It is not, therefore, an invariable rule that a debtor who has made an arrangement and who fails to meet his engagements thereby renders himself liable for the original debt in full.

A PARTNERSHIP DISPUTE.

IN the Equity Court, December 18, before Vice-Chancellor Sir J. Bacon, in the case of Mitchell, *v.* Condy, the defendant, Henry Bollman Condy, moved to commit the plaintiff, Dr. James Barr Mitchell, of Thistle Grove, Brompton, for contempt of Court, and to discharge a receiver who had been appointed in the cause. The plaintiff and defendant had been partners in the manufacture and sale of "Condy's Disinfecting Fluid," but, having disagreed, a bill for dissolution of partnership had been filed, and a receiver, named Lambton Young, had been appointed, pending a decree being made in the suit. The conduct complained of was that the plaintiff had obtained from the receiver a draft statement of the accounts between the partners, and had had this statement printed, with a formal heading, similar to that of a bill or answer in Chancery, and entitled, "Mitchell *v.* Condy," "Receiver's Interim Report," and had circulated this paper among the creditors and customers of the firm. The receiver said, and the plaintiff admitted, that he (Dr. Mitchell) called at the receiver's office, and not finding him at home, had taken the statement from the desk, and had had it printed and circulated without the receiver's knowledge. Another ground of complaint was that the receiver, instead of paying the rent of the partnership premises, had allowed the landlord to distrain for it, though he had funds in his hands.

The Vice-Chancellor said there was no excuse for the conduct of the plaintiff. The circulation of such a document as this was a clear attempt to interfere with the uninterrupted and impartial course of justice, and, in fact, was admitted to be so, for the plaintiff had offered to make an apology to the Court. The receiver had also forfeited the confidence of the Court. There had been a clear contempt on the part of the plaintiff; but his Honour would make no other order than that both the defendants should pay the costs of the motion, and that the receiver be discharged.

CHEMISTS' ASSISTANTS NOT AFFECTED BY THE MASTER AND SERVANT ACT.

An important case has been decided at the Guildhall Police Court by Alderman Sir Thomas White.

Mr. Holmes Keall, chemist and druggist, of Maida Vale, was summoned under the Master and Servant Act by Mr. James Crisp, 4 Cheapside, chemist and druggist, his former employer, for breaking a contract. Mr. Poland appeared for the complainant, and Mr. H. W. Christmas for the defendant. Mr. Keall had been an assistant to Mr. Crisp for about two years, his salary being 60*l.* per annum, with board and lodging. On the 9th of September the defendant asked for and obtained leave to go out for a short time. On his return he told Mr. Crisp that he had purchased a business at Maida Vale, and would like to leave his present employment forthwith. Mr. Crisp refused to allow him to do so until he procured another assistant. The defendant said he could not stay, as he had to take possession of the business the next night. He offered to forfeit one month's salary in lieu of giving a month's notice. Mr. Crisp declined that offer, and told defendant that if he left proceedings would be taken against him. Mr. Keall, however, left, and twice afterwards applied for the salary due to him from the 30th June to the 9th of September, less 5*l.* for one month's notice. The money was not paid. On the 29th of November Mr. Keall took out a summons in the County Court against Mr. Crisp for the amount, and on the 10th of December the complainant obtained this summons against the defendant. The County Court summons would not be heard until December 22. Mr. Crisp deposed that it was the custom to give a month's notice on either side, unless the parties mutually arranged to waive such rights. The defendant stated that either party could terminate the engagement at a moment's notice on giving the other side a month's wages. Mr. Christmas took a legal objection to the summons, under the 3rd section of the Act, which said, "Nothing in this Act shall apply to any contract of service other than a contract within the meaning of the enactments described in the first schedule to this Act." Now, there was nothing in that schedule respecting chemist's assistants. They did not come under the head of artificers or labourers, but were in the position of clerks, to whom this Act did not apply. Mr. Poland contended that, although a skilled man, in the shop the defendant was only a "servant." Sir Thomas White said it was a most important question, and he would like to take time to consider his decision. He had no doubt in his own mind that the conduct of the defendant was most selfish and inconsiderate, and that the forfeiture of a month's wages would not be satisfaction on either side for the breach of the agreement. But the objection raised by the defendant's solicitor was so important that he would take time to consider the decision. The magistrate said he had given the greatest consideration to the case, and had come to the conclusion that the defendant did not come within the meaning of the Master and Servant Act. He must therefore dismiss the summons. At the same time he had no doubt that the defendant had acted very improperly to his master. Mr. Poland said he would ask that the judgment of the Court might be respited for a week, so that his client might consider whether he would ask for a case for the superior Court, and obtain a definition as to who really was a servant under the Master and Servant Act. Sir Thomas White said he would adjourn the case for a week, and if the complainant decided not to have a case stated the summons would be dismissed.

We understand that Mr. Crisp decided to take no further action in the matter, and that the County Court case did not come on, the money having been paid into Court.

"GAZOGEN."

At the Liverpool Police Court, December 31, a gas-fitter named Price was summoned under the 3rd section of the Petroleum Act, 1871, 34 & 35 Vict., cap. 105, for having stored on his premises 14 gallons of an inflammable substance called gazogen, without a license. The defendant had given some handbills to the officers by whom the information was laid, which described the new substance as the invention of a London company, of whom he was sole Liverpool agent. Fourteen gallons were seized and taken to the fire police station. An inspector of weights and measures stated that one of the casks containing the gazogen was in the shop without a bung. The stuff ignited at 55°, and would have ignited at freezing-point. It was really a terrible substance. He took a sample to Dr. Brown, the borough analyst. Dr. Brown said he tested the gazogen according to the direction of the Petroleum Act, and found that its properties were of a character similar to those described in the Act. It let off an inflammable vapour at the ordinary temperature of the air—that was to say, at a temperature of less than 60° of Fahrenheit's thermometer. The schedule of the Petroleum Act took as a standard 100° of Fahrenheit's thermometer, but he tried this substance at about 60° and it flashed at once. In the sense that all petroleum was dangerous, the gazogen was very dangerous indeed, and when it came in contact with the air it would explode the same as common gas. Mr. Brown did not say that it was strictly petroleum: it was a sort of naphtha, but it came within the reading of the Petroleum Act. Mr. Raffles inflicted a penalty of 40*s.* and costs.

GENUINE MUSTARD.

At the Liverpool Police-court, before Mr. Raffles, Thomas Smyth, druggist, 178 Islington, was summoned under the Pharmacy Act, 1868, and the Adulteration Act, for having sold as unadulterated mustard which was adulterated. Mr. Atkinson, the deputy borough solicitor, appeared to prosecute on behalf of the Health Committee, and Mr. Bremner appeared for the defendant. Mr. Atkinson said in this case, which was the first of the kind, a point of the greatest possible importance to the public was raised. It was a very serious thing for druggists to sell anything but pure mustard, for he was informed that in many cases where it was prescribed by medical men for poultice purposes death might ensue if it were not pure. He contended that if a man went into a shop and asked for mustard he ought to be supplied with a pure article, or receive an intimation that he did not get it. He did not believe that Mr. Smyth had been guilty of the smallest moral fraud, for he was instructed that the article which the defendant sold was dearer than that which he could have sold as pure. Mr. Bremner: He would have less profit by selling the adulterated article? Mr. Atkinson: Yes. Had Mr. Smyth been a grocer, a person from whom mustard should have been obtained as a condiment, I do not think that Dr. Brown, the borough analyst, would have granted a certificate, but, being a druggist, it is essential, in the interests of the medical faculty, that druggists should regard mustard as a drug, unless they state that it is a condiment. The mustard purchased from the defendant is a very wholesome mixture and contains farina. Mr. Raffles: You mean to say that it is wanting in medicinal qualities? Mr. Atkinson: Yes. As a drug, the article is adulterated, and as a druggist he is supposed to sell mustard as a drug. Mr. Bremner: The purchaser, then, should ask if it is pure. Mr. Atkinson said they were so satisfied that there was no fraud that he should only ask for a very small fine. Mr. Bremner asked that the summons might be withdrawn. The case would be a warning to the public to let druggists know exactly what they wanted, and the druggists themselves would know what to do in future. John Fitzpatrick, inspector of nuisances, proved purchasing the mustard. The defendant made up the packet, which was not labelled, in his presence. Mr. Bremner: Did you ask for mustard only, or for the article called commercial mustard? Witness said he simply asked for mustard. He believed there were four sorts of mustard. Dr. C. Brown, the borough analyst, said he analysed the mustard in question, and found it adulterated with wheat flour. In the "British Pharmacopœia" mustard was a drug; farina should be absent. The drug was directed to be seed of *sinapis alba,* and free from farina. If not pure, its medicinal effects were lessened. Mr. Bremner, for the defence, did not complain of the summons having been issued, as probably it was advisable that such a summons should be taken out against some druggists for the purpose of raising the question, and bringing before the public the position in which druggists were placed by the Act. He thought, however, that the inspector, as a public officer, should have asked for what he wanted, and not for a thing which bore a double interpretation. If he had asked for mustard as a drug it would have been sold to him. He (Mr. Bremner) asked whether his worship did not think—the public purposes having been effected—the summons might be withdrawn. Mr. Atkinson said if the officer had asked for a pure article to be used as a drug he would have defeated his own object. He must ask a question in the same terms as a poor woman in Vauxhall Road, who intended it for a sick child. Mr. Bremner said that would just be the case in which pure mustard would be asked for. Mr. Raffles said he did not think it was necessary for everybody to ask for mustard for medicinal purposes when they required it for that purpose; but at the same time he thought that a person going into a druggist's shop and asking for mustard should be served with the pure article. He thought that the case would be met by the nominal penalty of 5*s.* and costs.

PARTNERSHIPS DISSOLVED.

Blankley & Nephews, Gainsborough, chemists. Dec. 5. Debts by W. H. Blankley.

Criscuolo & Kay, King's Road, St. Pancras, and 57 Gracechurch Street, Italian paste manufacturers. Dec. 4. Debts by Charles E. Kay.

Crossland, John, & Co., Burn, Lindley-cum-Quarmby, Huddersfield, manufacturing chemists. Dec. 13. Debts by John Crossland.

Finlay & Kilner, Belmont Terrace North, Kensington, surgeons. May 17.

Gissing & Hughes, Woodbridge, surgeons. Dec. 31.

Hill, Evans & Co., Worcester, and 34 Eastcheap, London, British wine and vinegar makers and merchants. Dec. 31.

Kendrick & Son, Birmingham, druggists and grocers. Dec. 3.

Maughan & Richards, Newcastle, chemical-brokers and merchants. Nov. 22.

Nicholson & Shannon, Whitehaven, surgeons. Nov. 21.

Piesse & Lubin, 2 New Bond Street, St. Katherine Docks, and Croydon, manufacturers of perfumes, &c. Oct. 9. Debts by G. W. S. Piesse.

Purnell, T. & R., Wells, Somerset, surgeons. Sept. 29.

Richmond & Co., Frome, vinegar manufacturers. Aug. 7. Debts by James Richmond.

Shaw, Joseph, & Co., Longroyd Bridge, near Huddersfield, chemists and dry soap manufacturers. Dec. 8. Debts by Benjamin North.

Steedman, T. C., & Bros., Hull, druggists and oil merchants. May 27.

Williams & Bignold, Wilton Road and Eccleston Place, Pimlico, and Lillie Bridge, West Brompton, veterinary surgeons. Oct. 24.

DIVIDENDS DECLARED.

Comber, William Merritt (Liq.), Queen's Ferry, Flintshire, manufacturing chemist. 2nd and final div. 1*s.*; J. Wakefield, 16 Corn Exchange Chambers, Chester.

Pollexfen, Edward (Bkt.), Horncastle, Lincolnshire, chemist. 1st and final div. 6*s.* 8*d.*; A. C. R. Adcock, 20 South Street, Horncastle.

Crook, John (Bkt.), Clayton, Manchester, chemist. 1st and final div. 8½*d.*; T. W. Gillibrand, 56 George Street, Manchester.

BANKRUPTCY CLOSED.

Jones, Elizabeth, Rhyl, Flintshire, late Abergele, chemist. There was not sufficient estate to pay the costs of the bankruptcy. Bankruptcy closed, Dec. 19.

BANKRUPTS.

Crawshaw, James, William Crawshaw, John Crawshaw, and **John T. Stephenson**, trading as **John Crawshaw & Co.**, Elton, Lancashire, drysalters. Dec. 24.

Howse, H. W., 3 Staple Lane, Holborn, late Exmouth Street, Clerkenwell, chemist. Dec. 10.

LIQUIDATIONS BY ARRANGEMENT OR COMPOSITION.

Notices of first meetings of creditors have been issued in re the following estates. The dates given are those of the petition:—

Ellis, Robert Joseph, trading as **Ellis & Moore**, Blackstock Street, Liverpool, manufacturing chemist, and Cranmer Street, Liverpool, ironfounder, late Laxey, Isle of Man. Dec. 22.

Farndale, George, Middlesborough, chemist and grocer. Dec. 17.

Fowler, Phillip Henry, Market Street, Bacup, chemist. Dec. 15.

Fox, Thomas, Keighley, Yorks, chemist. Dec. 20.

Griffin, William, Ledbury, Herefordshire, surgeon. Dec 13.

Johnson, William Henry, Cliffe, Lewes, Sussex, late Lydd and Lenham, Kent, surgeon. Dec. 29.

Kitchener, Thomas, Chippenham, doctor. Dec. 9.

Knowles, Thomas, 40 Seymour Street, Euston Square, late Frederick's Place, Caledonian Road, chemist. Dec. 20.

Markland, Edwin, Kelvedon, Essex, chemist. Dec. 12.

Morris, William, St. Nicholas Street, Worcester, chemist. Dec. 17.

Rew, Robert May, trading as **R. M. Rew & Co.**, 282 Regent Street. Dec. 23.

Trade Memoranda.

Mr. Amoore, junior, of Hastings, has commenced business at Bournemouth.

Mr. Graves, chemist, late of Goodramgate, York, has gone into business at Stanstead, in Essex.

Mr. Bennett, of Edward Street, Sheffield, has disposed of his business there, and is succeeded by Mr. Kenric Falling.

Mr. Jacob Wood, chemist, of York, having determined upon entering the medical profession, has disposed of his business at York. He is succeeded by Mr. Walton.

Mr. Loveridge, who was for many years assistant to Mr. Whitwell, chemist, Peterborough, has commenced business at Swineshead, Lincolnshire.

Mr. Maltby, of the firm of Battle and Maltby, Lincoln, is mayor of that city this year. The chemists of Lincoln muster strong, and compose a large part of the city council.

Mr. T. Daubeny, of Shepherdess Walk, recently bought the business of Hunt & Co., in Exmouth Street, Clerkenwell, and now carries on both establishments.

Messrs. T. Ordish & Co., late of 90 Newgate Street, makers of the Raven Black Marking Ink, &c., have removed to 108 Hatton Garden.

Mr. W. H. Dodwell, whose marking ink has become so well known, has taken extensive premises at 178 Camberwell New Road, S.E., where he requests all communications may in future be addressed.

Mr. Marchant, chemist, Ipswich, who for many years carried on business in the Butter Market, Ipswich, has retired from business to follow the pursuit of a farmer. He is succeeded by Mr. Clarke, a cadet from Grimwade and Ridleys, Ipswich.

Mr. Holmes, chemist, Meadow Lane, Leeds, has opened the Crown Chemical Works, on the site of the old Cloth Hall, Leeds, for the manufacture of the heavy chemicals required in the local woollen trade.

Mr. Harrop, chemist, of Wakefield, has disposed of his business there, and gone to Oldham, where he intends to give his undivided attention to the cultivation of the "Soothing Syrup" trade.

The firm of Messrs. Hill, Evans, & Co., vinegar makers, of Worcester and London, has been dissolved, and reconstituted without change of title by Messrs. T. W. Hill, E. W. Evans, and E. H. Hill.

Mr. W. H. Allsopp, son of Mr. H. Allsopp, the head of the firm of S. Allsopp and Sons, has joined the firm of Morgan & Co., late Morgan Brothers, which will henceforth be carried on under the style of Morgan, Allsopp, & Co.

Messrs. Preston and Sons, of Leadenhall Street, and Thos. Hodgkinson, King, & Co., of Tenter Street, Moorefields, have concluded an alliance, and will henceforth carry on business at 88 Leadenhall Street, as Thos. Hodgkinson, Prestons, and King.

Mr. Wm. Thomson, partner with the late Dr. Crace-Calvert, as analytical chemists at the Royal Institution, Manchester, announces that the business will continue to be carried on by himself in conjunction with Mrs. Crace-Calvert, under the title of Crace-Calvert & Thomson.

Messrs. A. S. Hill & Son, the old-established wholesale druggists, have broken the connection which has so long existed between their firm and "Little Britain," and have emigrated to Southwark Street, where they will doubtless retain the connection with Great Britain which has also so long existed.

The "Trade Directory" in the *Chemists' and Druggists' Diary* for 1874 has been found generally very complete and accurate. We regret, however, that we have to record one error. Under Wholesale Homœopathic Chemists, one of the addresses of Messrs. James Epps & Co. appears as 112 Great Russell Street. The establishments of this firm are 48 Threadneedle Street, E.C., and 170 Piccadilly, W.

Mr. G. B. Clarke, of Woburn Sauce notoriety at the late Vienna Exhibition, has just entered upon more extensive premises in High Street, Woburn, Beds. These have been very handsomely fitted up, and display prominently both the Pharmaceutical arms and those of the Duke of Bedford (Mr. Clarke being a tenant of his Grace.) This shop is of a higher character than one expects to see in a small country town like Woburn.

STRANGE'S A 1 CRYSTAL OIL.—We have had before us a sample of Strange's A 1 Crystal Oil, which still maintains its high character. It does not ignite until the temperature is raised to about 125° Fahr., and is thus a perfectly safe oil. Besides, this it is a bright, colourless product, with but little odour. Dr. Alfred Hill, of Birmingham, who has recently reported on it, considers it superior to any other petroleum which he has examined. Its purity, he says, is such that he has found it unnecessary to trim the wick with scissors for months together. Messrs. S. Tudor & Sons, of College Hill, Cannon Street, supply this oil, and look to chemists and druggists as their best agents.

GEORGE BRIGGS KING, WHOLESALE DRUGGIST, WOLVERHAMPTON.—A meeting of creditors in the matter of a petition under the liquidation clauses of the Bankruptcy Act was held at the offices of Mr. Griffin, solicitor, Bennett's Hill, on the 23rd ult., Mr. Toogood, of Hull, in the chair. The following statement of account was submitted to the meeting:—Unsecured creditors, 3,187*l*. 9*s*. 2*d*.; creditors partly secured, 1,120*l*. 14*s*. 7*d*., less 980*l*., estimated value of securities; creditors to be paid in full, 22*l*. 18*s*. 3*d*.; liabilities on bills discounted, 523*l*. 11*s*. 2*d*.; of which it is expected will rank against the estate for dividend: 33*l*. 18*s*. 1*d*.; total debts, 3,385*l*. 0*s*. 1*d*.; assets, book debts, about 43*l*. 4*s*. 7*d*., estimated to produce 2*l*.; furniture and fixtures at office in Cannon Street, 15*l*.; total assets, 17*l*. After some considerable discussion, it was decided to accept a composition of 5*s*. in the pound, payable in four instalments — of four, six, nine, and twelve months, the two last to be secured to the satisfaction of Mr. Toogood and Mr. Lomas Harrison — the latter gentleman being appointed trustee and to distribute the bills. The following are the principal creditors:—Alberdingk & Zonen, Amsterdam, 349*l*. 16*s*. 4*d*.; Butler & Co., Bristol, 255*l*. 17*s*. 5*d*.; Box Brothers, Rotterdam, 71*l*. 5*s*. 5*d*.; Bowring & Jamieson, London, 539*l*. 3*s*. 6*d*.; Borwick & Sons, London, 21*l*. 14*s*. 1*d*.; Browning, J. H. & Co., London, 22*l*. 8*s*.; Bassett & Co., Sheffield, 17*l*. 15*s*. 6*d*.; Colman, J. & J., London, 12*l*. 2*s*.; Alexander Day, Birmingham, 10*l*. 3*s*. 5*d*.; Edwards, William, London, 84*l*. 10*s*.; Fergusson & Foster, London, 20*l*. 9*s*. 7*d*.; Holden, A., Birmingham, 29*l*. 5*s*. 5*d*.; Lynch & Co., London, 10*l*. 2*s*. 3*d*.; Midland Railway Company, 70*l*. 5*s*. 2*d*.; McNair, Messrs., Glasgow, 11*l*. 10*s*. 9*d*.; McDougall Brothers, Manchester, 40*l*. 19*s*. 9*d*.; Oxborrow, E., Birmingham, 10*l*. 15*s*.; Shufflebotham, E. & Co., Birmingham, 100*l*.; Saunders & Brewster, Hull, 359*l*. 4*s*. 8*d*.; Storry, Whitty & Co., Hull, 14*l*. 16*s*. 4*d*.; Shorp, E. & Luke, Birmingham, 15*l*. 15*s*.; Toogood, R. & Co., Hull, 85*l*. 12*s*. 9*d*.; Turner, J. R., Bristol, 27*l*. 5*s*.; Wright & Crossley, Liverpool, 10*l*. 11*s*. 3*d*.; Walker, Parker & Co., Chester, 34*l*. 13*s*.; Wyleys & Co., Coventry, 44*l*. 9*s*. 10*d*.; Wood, E. & Co., Burslem, 25*l*. 8*s*. 4*d*.; Whelpton, G. & Son, London, 19*l*. 19*s*. 6*d*.; Wright, Sellers & Layman, London, 168*l*. 2*s*. 1*d*.; Trustees of William Sumner's Estate, 150*l*.

We have received new trade catalogues from the following houses:—

Messrs. Bourne & Taylor, 35 Castle Street, Holborn, a condensed and illustrated list of druggists' sundries.

Messrs. Ashton & Parsons, Wormwood Street, a new descriptive catalogue, well illustrated, of homœopathic medicines, medicine chests, books, &c.

Messrs. Henry Turner & Co., Fleet Street, a very complete and handsomely illustrated list of homœopathic medicines and accessories.

Messrs. F. Newbery & Sons, 37 Newgate Street, a new catalogue of patent medicines and proprietary articles, divided into two sections—English and Foreign. No doubt the most complete catalogue of patent medicines yet issued. We believe this is scarcely ready for circulation.

Miscellaneous.

American Champagne.—A mixture of petroleum, sweetened with glycerine and impregnated with carbonic acid gas, is said to be made and sold as champagne in the United States.

At a recent meeting of the Royal Geographical Society, Mr. Joseph Straughton, of Cockermouth, chemist, was elected a Fellow.

T. W. Boord, Esq., F.S.A., M.P., has accepted the invitation of the Committee to become a Vice-President of the Chamber of Trade.

What is the difference between having a tooth properly drawn by a professional surgeon and having it knocked out by a fall upon the pavement?—One is dental, and the other accidental.

Zinc Signs.—*The Manufacturer and Builder* gives the following recipe for lettering zinc labels:—Two parts acetate of copper (verdigris), two parts chloride of ammonium (sal-ammoniac), one part lamp-black, twenty parts water; mix well in a glass-stoppered bottle, and shake before using. For fine lettering, you may apply it by means of a blunt-pointed steel pen.

Previously to 1873, "theological and religious works" have always headed the list of the varieties in the classifications of books published in England during the year in point of numbers. Last year, for the first time, "works of fiction" took the lead, numbering 831, against 770 of the former class. "Arts, science, and historical works" is a good third with 588.

Passing through the Latin Quarter of Paris the other day, we saw a notice affixed to one of the numerous second-hand bookshops of that locality, announcing "books at 60 centimes the kilometre." Scarcely 3*d.* per pound! The clean paper is worth double that sum. Let authors and all paper-spoilers take the lesson to heart.

Preservation of Yeast.—A method has been patented by Jeversend and Boldt, of Copenhagen, for the preservation of yeast, which consists in washing the yeast with water, drying by pressure and with aid of a centrifugal machine, finally in a partial vacuum at a low temperature. The dry powder is packed in hermetically sealed cans, and may be preserved for months.—*Ind-Blätter.*

It has been ascertained that during the past year 80,000*l.* in donations of 1,000*l.* each have been given to the various metropolitan charities anonymously, and in nearly every instance it is thought that this disinterested work of charitable munificence has been by one and the same individual. There has also been one anonymous donation of 5,000*l.*, and probably nearly a quarter of a million in smaller sums.

How to Deprive Iodine of its Stain.—Add a few drops of phenic acid to the tincture, and it will not stain; moreover, the tincture is more efficacious, and its action more certain. M. Bogs recommends the following formula for use in injections: Alcoholic tincture of iodine, three grm.; phenic acid, six drops; glycerine, 30 grm.; distilled water, 150 grm. This preparation is superior to all others in the treatment of blenorrhagia and leucorrhœa.—*France Medicale.*

Administration of Podophyllin.—Mr. A. E. Barrett (*British Medical Journal*, Oct. 18) recommends the following formula when it is necessary to give podophyllin:—

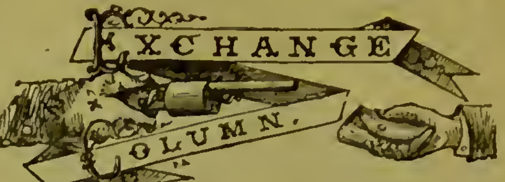
℞	Podophyllin	gr. ivss.
	Extracti elaterii	gr. ivss.
	Pulv. jalapæ comp.	ʒvj.—M.

Half a drachm of this powder in half a pint of warm water acts most effectually, the cholagogue effects of the podophyllin seeming to be assisted by the hydragogue. Its use is not apt to be followed by constipation.—*London Medical Record.*

Varnish for Negatives and Transparencies.—Alfred Hughes recommends the following as a perfectly colourless and smooth varnish:—

Ether	560 grms.
Benzol	250 „
Sandarac	40 „
Canada balsam	10 „

Dissolve the sandarac in ether and add the benzol.—*Ind-Blätter.*



Revised Terms.—Announcements are inserted in this column at the rate of one halfpenny per word, on condition that name and address are added. Name and address to be paid for. Price in figures counts as one word.

If name and address are not included, one penny per word must be paid. A number will then be attached to the advertisement by the publisher of the Chemist and Druggist, and all correspondence relating to it must be addressed to the "Publisher of the Chemist and Druggist, Colonial Buildings, Cannon Street, London, E.C.," the envelope to be endorsed also with the number. The publisher will transmit the correspondence to the advertiser, and with that his share in the transaction will cease.

FOR DISPOSAL.

Bentham's Flora; new, 31*s.* 6*d.* (Published 3*l.* 10*s.*) 28/222.

Vermin Killer. Six dozen 3*d.* for 7*s.* 6*d.* 30/222.

Books for Preliminary. A bargain. "Nemo," 2 Parade, Northampton.

An Outside Mortar. A neat "Teeth Extracted" Tablet for window. Two Carboys for window. 27/221.

"Pharmaceutical Journal:" posted day of arrival. What offers? Butterfield, Shipley.

To be sold cheap, one of Wightman's best Amateur Printing Presses. Complete. 21/222.

A 2½-horse-power engine, in good condition, and soda-water machinery. To be sold cheap. 35/199.

A fine Outside Lamp and Bracket. In good condition. Offers wanted. Chant, Langport, Somerset.

Attfield's "Chemistry." Jno. T. Newton, 250 Langsett Road, Sheffield.

77 Mahogany Fronted Drawers, 12 ft. 3 in. long, 3 ft. 1 in. high, 1 foot front to back, 4*l.* 4*s.* Brewer's Isinglass Chips, 2*s.* 6*d.* per lb.; Brazil Pipe, 4*s.* 8*d.* J. Hoyd, Bury St. Edmunds. 40/200.

Dentist's Lathe, Vulcanizer, and Sundry Tools, nearly new. List on application. W. W. Mildren, Chemist, Hayle.

Southall's Materia Medica Cabinet. With additions. Good condition. Cost 25*s.* Price 18*s.* 6*d.* Ransom, 21 Market Place, Spalding.

"National Encyclopædia." McKenzie & Co., 1872. 13 vols., and fully coloured Atlas complete. Just new. Cost 8*l.* Offers wanted. Thornley, Stow-on-the-Wold.

Four York Glass Company's 3½ gallon Pear-shaped Globes. Height 24½ inches. Perfectly sound. 5*s.* each. Doble, Tavistock.

A one-horse power Engine and Boiler complete, with pressure gauge. Nearly new. Highest offer over 16*l.* nett. J. Ruston, M. P. S., chemist, Maryport.

A Bargain.—A No. 1 Soda-water Machine (except Generator and Gasometer). Can be seen at Messrs. Sutton & Co., 10 Bow Churchyard, E.C.

Trusses. 2½ doz. Single, 1½ doz. Double; common principle. 11 Single and 13 Double S. & O's. Principle. What offers. Condition perfect. 3/222.

"Pharmaceutical Journal;" bound. First and Second Series complete. Goddard's "Chemist's Price Book;" both cheap. Macpherson, Stornoway.

Pot. Iodid., 17*s.* 6*d.* lb. Pulv. Opii. Turc. Opt., 2 lb., 30*s.* per lb. Gum Opii. Turc. Opt., 28*s.* per lb. George Drury, Southwell, Notts.

"Pharmaceutical Journal," 1870–73, unbound. Owen's "Student's Remembrancer." Offer anything useful. Bell & Co., Chemists, Brixton, S.W.

In exchange for another. Three-Grain Pill Machine for a Five-Grain Machine. W. H. Solomon, Chemist, 107 Stafford Street, Hanley.

Barnett's No. 4 Soda Water Machine, with bottling apparatus and dial indicator complete. Nearly new. F. J. B., 122 High Street, Winchester.

What offers? 56 lbs. of Pulvo Amylum. Set of eight forceps in leather case, in good condition. 1 cwt. Plumbi Acet. Diggle, Chemist, Heywood.

Six pounds of Dixon, Dean, & Company's Gutta Percha Tissue, at 6*s.* per lb. A few pounds of Turkey Sponge, in pieces about 12 to the pound, 6*s.* per pound. Cash with order. Hatch, Isaac, & Co., Clifton, Bristol.

Cheap, a lot of Photographic Apparatus, including two Cameras and Lenses, in good condition, by a Chemist giving up photography. For list, address to Mr. Wynter, High Street, Seaford, Sussex.

Lescher's "Elements," 4*s.* 6*d.*; "Diagrams of Reactions and many Notes for Minor," 3*s.*; "Selectâ Prescriptis," 3*s.*; Roscoe's "Chemistry," 3*s.*; "Cæsar de Bello Gallico," 1*s.* 6*d.* B., Post Office, Leinster Terrace, Hyde Park.

Lescher's "Elements," 5*s.*; Squire's "Companion," 7*s.*, both new. Wanted, Attfield's "Chemistry," late edition. State lowest, or will exchange. Chemicus, 46 Churton Street, Pimlico.

The "Pharmaceutical Journal," from commencement up to end of 1871. 19 vols. half-bound, the remainder in weekly numbers; all well preserved; offers wanted. Mrs. Haselar, Cranbrook, Kent.

For Sale, at Penrith. Four Nests of Excellent Chemists' Drawers, gilt labelled, solid mahogany fronts, containing 81, 58, 50, and 56 drawers. Each nest has also a row of spaces. Apply to J. Edgar, 17 Dickinson Street, Manchester.

"Pharmaceutical Journal," 1873, 6*s.*; Muspratt's "Chemistry," well bound, 2 vols., 42*s.*, cost 90*s.*; four 14-lb Tea Canisters, 10*s.*; splendid toned Cottage Piano, 6¾, rosewood, in excellent condition, 25*l.*, by Holderness, cost more than double. Lea, Folkestone.

Royle's "Materia Medica," 5th edition, 8*s.*; 2 vols. "Year Book, Pharmacy," 1871–2, 7*s.* 6*d.*; Balfour's "Botany," 3*s.*; "Chemist and Druggist," 1873, 5*s.*; Procter's "Pharmacy," 8*s.* 6*d.*; Taylor's "Poisons," 7*s.* 6*d.* Charles Kirkman, Chemist, Wimbledon.

Homœopathic Medicines by Leath & Ross. 1*s.* Tinctures, 4*s.* 6*d.* doz.; 9*d.* Globules and Pilules, 3*s.* 6*d.* doz.; Gabriel's Dentifrice, Coralite Tooth Paste, Gutta Percha Enamel, 8*s.* doz.; Elixir and Osteo Enamel, 24*s.* doz.; Sedadent, 7*s.* 6*d.* doz.; Gillard's Spice and Infant's Food, at half the retail price. Cash or exchange. Cockburn, Chemist, Sunderland.

"The Anatomy of the External Form of Man, for the use of Surgeon Artists, Painters, and Sculptors," with an Atlas of 28 Plates; quarto. Price, 15*s.* Muspratt's "Chemistry," in two vols., half-bound roan, 35*s.* Two showjars for window, single scroll, tin tops, as fig. 23. Maw's price current, 30*s.* P.A.S., 70 Hyde Road, Hoxton.

Very handsome Plate Glass Tablet in maple gilt frame, 40 in. by 30, lettered "Prescriptions Carefully Prepared," and three other lines. Royal Arms in centre. Desk, Counter, and Fittings of small office, nearly new. Small Liebig's Condenser. All under half cost price. J. Beddard, 46 Churton Street, Belgrave Road, London.

To Chemists commencing or enlarging.—For immediate disposal, and may be had at the end of March, the Fixtures of a Chemist giving up business at that time, comprising capital Counter, Panelled Mahogany Top with Drawers, Shelves, Mahogany Fronted, levelled, with Turned Mahogany Pillars and Cornice, Shop Bottles and Jars, gold labelled, Upright Mahogany Fronted Counter Case, 4 feet long, Flat Counter Case, Show Globes, Specie Jars, &c., &c., and a quantity of Deal Shelving. Apply, S., Mr. Foggitt, Chemist, Thirsk.

One Set of Forceps, Circular Joints, best chequered handles new, 30*s.* A Drug Grinding Mill, best French Stones, to be sold cheap. 3 dozen pairs large Shop Scissors, 5*s.* per dozen. 20 Gross Fardon's Fire Lighters, Penny Boxes, 5*s.* per gross. Stove to burn coke with large quantity of piping, 15*s.* Halse's Galvanic Battery, as good as new, 4*l.* Address, J. G., 14 Netherthorpe Street, Sheffield.

Two 10-Gallon Show Globes, Pear Shape, Cut Stoppers, without Stands. A Set Fine Counter Scales, Ebonite Pillar, 14 in. beam, 17½ in. high, moveable Ebonite Pans, and Knife Edges. A Set Scales, after Mohr, with Regulating Flag Octagon Pillar, 14 in. beam, 18 in. high, Knife Edges. Will turn with half grain. Offers wanted. John T. Clark, Salford.

Two Cosmetique Moulds, each making 36. Two Gas Brackets, Argand Burners and Reflectors. Opal Glass, covered arms, one damaged. One gallon Percolator and receiver, the lot 28*s.* Would take 8 oz. long necked Sauce Bottles, plug stoppers, Pomade and Citrate Magnesia Bottles in lieu of cash. Mahogany Glazed Show Case, fitted with dispensing shelves behind, 54 inches long, 24 high, 8 deep. Price 75*s.* For sketch, Moore, Chemist, Cheltenham.

Marble Mortar, 24 inches diameter, 10 deep, on Stand, with Lignum Vitæ Pestal. Price 2*l.* 5*s.* Two Enamelled Evaporating Pans, 24 inches and 28 inches diameter. 11*s.* each, or 1*l.* the two. Screw Press, 2 inch worm, 2*l.* Sykes' Hydrometer (from Bate, Poultry), with Table complete, 2*l.* 2*s.* Specific Gravity Measure, in Mahogany Case, with Weights complete, 10*s.* 6*d.*; and sundry other articles used in a Laboratory. Apply to H. Potter & Son, Viaduct House, Farringdon Street, E.C.

Spratt's "Obstetric Tables," 2 vols., moveable coloured diagrams, rare, 35*s.*; Wagner's "Physiology," 10*s.* 6*d.* (published 24*s.*); Quain's "Arteries," 87 coloured plates by Maclise, 6*l.*; "Cloquet Anatomie," 222 fine lithographic plates, 7 vols., 5*l.*; Morfit's "Manufacture of Soaps," 45*s.*; Rayer's "Diseases of Skin," 400 coloured figures, 27*s.* 6*d.*; "Ricord Maladies Vénériennes," 50 fine coloured plates, 5*l.*; Todd's "Cyclopædia, Anatomy, and Physiology," 5 vols., only 4*l.*; Home's "Lectures, Comparative Anatomy," 6 vols, 2 guineas (published, 18 guineas); Lindley's "Flora Medica," 10*s.*; "Medical Botany," 138 beautiful coloured plates, 25*s.* (cost 3*l.* 3*s.*). Particulars of Chemist, Church Street, Hadleigh, Suffolk.

Orfilia on "Mineral, Animal, and Vegetable Poisons." 2 vols. boards 12*s.* 6*d.* Published at 30*s.* Timbs' "Year-Book of Facts in Science." 16 vols., 2*s.* each. Published at 5*s.* "The Penny Encyclopædia." 25 vols. cloth 30*s.* Published at 7*s.* 6*d.* per vol. Hardwick's "Photographic Chemistry." 7th edition, 4*s.* 6*d.* 1 vol. Turner's "Chemistry." By Liebig and Gregory. 1 large vol. cloth, 12*s.* Published at 1*l.* 8*s.* Dr. Paris's "Medical Chemistry." 1 vol. 8*s.* Published at 16*s.* Dr. Paris's "Pharmacologia." 2 vols. 12*s.* Published at 30*s.* Arnott's "Physics." Calf gilt. 1 vol. 1*l.* 1*s.* (very scarce). Liebig's "Familiar Letters on Chemistry." 1 vol. cloth. New, 4*s.* 6*d.* Published at 7*s.* 6*d.* Carriage not included. Stamps or P.O.O. payable to T. Thompson, care of "Publisher," 14 Bath Street, Newgate Street.

Mahogany Enclosure to window, counters, drawers, glass cases, Grained Front Counter with four panelled doors, mahogany top, and four tin shelving brackets. Quantity Shelving uprights, bearers. Two Imitation Mahogany Drawer Fronts. 2,000, 4, 10, 20, 30, 40 oz. Gold labelled, engraved Shop Bottles, Blue Syrup Acid Bottles, Patent Oil Bottles, glass caps. Half, one Two Gallon Block Glass Stock Bottles, gilt, japanned caps. Tooth Brush Show Cases. Quantity Carboys, cut glass stoppers, Specie Jars, six handsome gold labelled Show Jars, with gilt glass covers, about 15 inches high. Composition Marble Mortars, Pill Machines, 56 lbs. Gum Opii. Turc. Opt. 24*s.* a lb. Two tons Oxide Manganese, 14 lbs. Red Precipitate, 14 lbs. Corrosive Sublimate, 14 lbs. Calomel, 1 cwt. best Arrowroot in tins. Immense Stock Drugs, Chemicals, Cockle's, Norton's, Holloway's, Parr's, Powell's, Steedman's, Dr. Scott's, Winslow's, Allcock's, Browne's Chlorodyne, Troches, Whelpton's, 9*s.* dozen. Stedmans, 7*s.* 3*d.*: Ext. Carnis (Liebig's Company), 14*s.* 9*d.*; Tooth's, 14*s.* 3*d.*; Ramornie's, 12*s.* 10*d.* Stamp for list, state what you require. Lloyd Rayner, 309 New North Road, Islington, London.

Three dozen robins on log, Rimmel's, 10*s.* 6*d.*; 2 dozen 6*d.* Globules, 6*s.*; 12 lb. Iron Filings, 2*s.* 6*d.*; Electric Machine and appliances, 15*s.*; Air Pump, 3*l.*; 1½ gross 8 oz. Stone Bottles, contain solution shellac, &c., 21*s.*; 4 panes ground glass, for outside lamp, various coloured glass, 2 panes bent glass, 25 in. by 15 in., lot 12*s.* 6*d.*; 63 lbs. cart grease, 6*s.* 6*d.*; accurate Beam Scale on Pillar 17 in. beam, 30*s.*; 5 or 6 60 oz. Stopped Round W. M. 5*s.*; 3 lbs. Tonquin Beans, 10*s.*; Microscope, 3*l.* Books and cash in exchange. R. C. Mason, Bromsgrove.

Pair Show Jars, No. 1. Maw's, cheap; two, 2*s.* 9*d.* Lewis's Liniment; one, 2*s.* 9*d.*, Ryan's Coltsfoot; one, 2*s.* 9*d.*, Simpson's Herbal Pills; one each, 4*s.* 6*d.*, 2*s.* 9*d.*, 1*s.* 1½*d.*, Freeman's Senna; five, 3*s.*, Taylor's Condition Balls; two each, Grijnous' Soda, 1*s.* 1½*d.*, Marsh Mallow, 2*s.* 9*d.*, Lozenges; six each, No. Morrison's, 7½*d.*; eleven Couchman's Tic Pills, 1*s.* 1½*d.*; one Propert's Boot Powder, 2*s.*; one, 5*s.*, Imrie's Golden Hair Wash; one, 3*s.* 6*d.*, Oldridge's Colombia; one, 1*s.* 1½*d.*, Sawyer's Bunion; one, 1*s.* 1½*d.*, Pritchard's Steel Pills; one, 1*s.* 1½*d.*, Locock's Female Pills; two, 1*s.* 1½*d.*, Armstrong's Gout Pills, all half retail price; Vermin Killer, 3*d.*, 1*s.* 3*d.* dozen; 6*d.*, 2*s.* 9*d.* dozen. Gason, Guildford.

Powder Folder, fig. 2., Maw's. Desk, solid mahogany, fig. 21., Maw, height 27 inches, width 29 inches, depth 23 inches. Pill Machine, marble slab, Maw's, nearly new, 12 pills. Four dozen Palmitine Floating Soap. Four dozen Joy's Cigarettes. Six gross 4 oz. Eau de Cologne Bottles. Two doz. Geyellin's 1*s.* Tapioca Beef Bouillon. Four Bollan's Patent Vapour Baths. Two doz. Brooke's Pile Ointment, 1*s.* 1½*d.* Two doz. Brooke's Remedy for Piles, 2*s.* 6*d.* "Chemist and Druggist" for 18 , unbound. "Quain on the Rectum;" Widay's "Infantile Syphilis." (Will be delivered in London.) Offers, or useful exchange required. J. Balcomb, Cheltenham.

2*s.* 3*d.* each, post free, "Dudgeon's Lectures," Homœopathy; "Guernsey's Homœopathic Practice;" "Celsus," first Four Books; Scott's "Diseases of Joints;" Quin's "Pharmacopœia Homœopathica;" Rennie's "Supplement Pharmacopœias," 1829; Sampson on "Homœopathy;" London "Pharmacopœia," 1809; Phillip's Translation "Pharmacopœia," 1836; Erasmus Wilson's "Mineral Waters;" "Homœopathic Truths;" Davis's "Acute Hydrocephalus;" Cullen's "Physiology;" Main's "Vegetable Physiology;" Quincey's "Medical Dictionary;" Jahr's "Medicaments Homœopathique;" Clarke's "Diseases of Children," first part; Jordan's "Skin Diseases;" Dawson's "Spermatorrhœa." T. Floyd, 2 Paddington Street, Poole's Park, London, N.

Quain and Wilson's "Anatomical Plates," 5 vols.; vessels coloured, 4 guineas; Craigie's "Pathological Anatomy," 4*s.* 6*d.*; Bourgeress' "Minor Surgery," 3*s.*; Cooper's "Practical Surgery" (wants binding), 4*s.* 6*d.*; Gooch's "Chirurgical Works," 3 vols., scarce, 10*s.*; Copland's "Dictionary Practical Medicine. Parts 1 to 13 inclusive (part II. wanting), 15*s.* (cost 67*s.* 6*d.*); Kane's "Chemistry," 10*s.* 6*d.* (published 28*s.*); Stephenson and Churchhill's "Medical Botany, Zoology, and Mineralogy," 4 vols., 5*l.*; Sowerby's "Useful Plants," 300 coloured figures, 17*s.* 6*d.*; Schleiden's "Scientific Botany," 12*s.* 6*d.*; Peschel's "Physics," 12*s.*; "Pharmaceutical," first five vols., 12*s.* 6*d.*; Percivall's "Veterinary Art," 20*s.* (published 42*s.*); Quekett's "Microscope," 14*s.* A. Davis, 161 Seven Sisters' Road, London, N.

A decided Bargain to any Chemist desirous of giving to his establishment a full appearance at but little outlay for stock or fixtures. To be disposed of immediately, their space being required for alteration of premises, handsome French polished side Counter Cupboard, constructed three years ago, of novel design, about 7 inches deep, supporting upright sheet-glass Case, about 6 inches deep, the whole being 8 feet long and 8 feet high. Handsomely ornamented bold Cornice, 8½ inches deep on top, and somewhat similar to Maw's fig. 200 (*vide* their price current, page 85), but being pitch pine, ebonised in relief, and having circular plate-glass ends, it has a much more showy appearance than could possibly be obtained with the plain square end, and is so constructed as to be easily convertible into any desired depth almost without cost. Also upright French polished Mahogany Show Case, 30 inches wide, 40 inches high, and 6 inches deep, two doors in front glazed with strong glass, moulded cornice, and mahogany shelves with polished fronts. One ditto, varnished, same shape, 30 inches wide, 36 inches high, and 6½ inches deep; and nest of 30 dove-tailed drawers (two sizes), mahogany fronts, though also varnished. Carcase, about 24 inches high, 10 inches deep, lined throughout, and with backs complete, with open bin underneath, making total height about 39 inches. Price, 15 guineas; for the first-named alone, 12*l.* 10*s.* Butterworth, Pharmacist, Bradford, Yorkshire.

WANTED.

Attfield's "Chemistry," fourth edition. 25/221.

Bottles; Cases; Books. Jones, Chemist, East Grinstead.

A Specie Jar for Window. Apply, CHEMIST AND DRUGGIST Office 25/222.

Six or Eight Gallon Pear-Shaped Carboys and One Specie Jar. G. C. Chiles, York Road, Leeds.

Southall's "Materia Medica," cabinet, complete. H. T. Jeffery, Tring, Herts.

Fire-proof Safe (small). Two-Grain Pill Machine: cheap Macpherson, Storuoway.

Three or Four boxes Maisch's Corn Plasters, in good condition Brown, Chemist, Dover.

A Tincture Press, in good order, not smaller than two gallons. Bowles, Chemist, Chester.

Gray's "Supplement;" Beasley's "Receipt Book and Pocket Formulary." Bowles, Chemist, Chester.

Perrett's Mamma Feeding Bottles complete. State quantity and price. Humphries, Chemist, Garston, Liverpool.

Ammonia Citrat. or Tartrat. Ferri, four pounds. (Howard's). 9/221.

Two large Window Carboys. Also two large Specie Jars. Must be in good condition. Dennis, Chemist, Louth.

Pereira's "Selecta e Præscriptis," and last edition (Latin). "British Pharmacopœia," second-hand. Price to Carew, Theresa Place, Hammersmith.

Petroleum Cistern, in good condition, to hold two or three barrels. Describe, stating price, to Alpha, Post-office, Hednesford, Stafford.

AROMATIC MIXTURE.—The following formula is from the collection recently published for use in the Philadelphia Hospital, and affords a pleasant vehicle for administering nauseous remedies:—

Sem. coriand.	ʒij
Sem. angelicæ	ʒijss.
Sps. vini deod.	f℥xij
Aquæ	f℥x
Glycerinæ	f℥v
Syrupi	f℥vj

Percolate two pints.—*London Medical Record.*

ACTION AT LAW FOR A DEATH FROM CHLOROFORM.—A Madame Caren some months since was taken by her husban to a dentist at Lille, to have a tooth drawn. Chloroform wa administered in his presence, and his unfortunate wife die The dentist was condemned by the Criminal Tribunal at Lill to a month's imprisonment and 500 francs fine for "homicide b imprudence." On appeal, the imprisonment was struck out of th sentence. Thereupon the husband, although he had complete authorised the use of the chloroform, brought a civil action f damages, demanding 20,000 francs in his own interest and th of a son, a minor. The tribunal, considering the fact of hom cide by imprudence having been established by the judgment the criminal court, condemned the defendant to pay 4,000 fran damages, 1,000 to go to the husband and 3,000 to be put o at interest for the son until he attained his majority.—*Uni Méd.*, December 11.

TRADE REPORT.

BETWEEN the middle of December and the middle of January there is always a partial cessation of public business, and all firms employ themselves in taking stock and estimating their profits or losses. The national balance sheet shows excellent results, and seems to justify Mr. Lowe's rather bold experiment of trusting to the winds of fortune for a portion of our Alabama debt. There is every probability of a fair surplus when the financial year closes, and in all quarters it seems to be apprehended that the income tax is to be the impost to be lightened. The fact of Mr. Gladstone having assumed the duties of the Exchequer office is a promising sign. Not that he, any more than any other mortal, can ensure prosperity, but it indicates that he had in his mind some brilliant and popular *coup* intended to gratify those classes which his ministry has most seriously offended. Without betraying any Cabinet secrets, we think we may say that this theory is at all events a probable one, and in its light we may enter upon a new year, financially and commercially, with light hearts.

Thanks to the brilliant commencement, and in spite of the American panic, the not unsatisfactory finish of 1873, the export trade in chemicals shows a better result than we had reason to expect in the middle of the year. The following figures will perhaps be interesting. They show the value of chemical products exported from the United Kingdom during 1871-2-3 respectively:—

Alkali.

	Cwts.	Value.
1871	4,176,667	1,747,269*l.*
1872	4,453,068	2,486,991*l.*
1873	4,758,393	2,931,351*l.*

Other chemical productions or preparations unenumerated :—

1871	1,588,763*l.*
1872	1,863,634*l.*
1873	1,745,510*l.*

The above figures, though at first sight they seem reassuring, do not, however, quite so well bear inspection. A glance at our prices current will indicate our meaning. The difference in price which a year has made is somewhat remarkable. In the first three months of 1873 prices for chemical products were very high almost all round. Since that time there has been an almost universal declension. Soda crystals, for example, reached in March 175*s.* per ton; they are quoted at this moment at 112*s.* 6*d.* to 115*s.* Bleaching powder, the by-product of all alkali works, came down to 9*l.* 15*s.* against 14*l.* 10*s.* The fall is due partially to the more moderate price of coal, but it also indicates how considerably manufacturers have been over-producing, and thus interfering with their own profits.

Trade with Germany has grown considerably, and the extension of commercial relations with France since Marshal MacMahon has been settled in the Presidential chair is so great as to merit notice as a political fact.

The chemical trade brightened considerably in December, and still maintains its buoyancy. Prices in most cases are firm, and a fair, if not a lively, year is generally anticipated. Quicksilver is unchanged. Iodine is nominally 1*s.* still, but it cannot be bought under 1*s.* 3*d.*, and doubtless the Association will give a fixed quotation at this figure in a day or two. Out of ten cases of Chilian iodine offered at the London drug sales last Thursday, containing 95·70 per cent. iodine, two were sold at 1*s.* 1*d.* A large quantity of American refined borax was sent to London last week from Belgium, as many as 400 boxes arriving from one firm. English refiners at once met the emergency by offering their product at 75*s.* instead of 95*s.*, a piece of prompt generalship which was perhaps scarcely anticipated by our Belgian cousins, and may probably teach them to avoid dangerous speculations on the chemical markets in future. Any large dealer in borax would, no doubt, do well to buy it now if he can get some at the nominal quotation. With crude at 60*s.*, manufacturers will not be satisfied long to bring their refined product to market at such a small margin of difference.

It is very evident that, notwithstanding the moderate price of money, there is at present no desire in the drug markets to affect prices by speculation. A moderate demand, with firm prices, was the characteristic of last Thursday's sales. In many cases, holders were more independent than buyers, and succeeded in retaining their articles. This was the case with opium, some good qualities of rhubarb, and cardamoms. Sixty-five cases of E. I. Cinchona were put up, of which 29 were very ordinary twigs, and sold at 1½*d.* to 2*d.* The rest were bought in at prices ranging from 1*s.* 4*d.* to 2*s.* A very active trade has been done in camphor, and China now stands at 90*s.* There are but few sellers, and small arrivals expected.

With regard to opium, although prices at present stand as before, there is every probability that first qualities will advance. The stock of opium in hand in London on December 31 was 739 cases, against 861 same date 1872. The crop of 1873 was estimated at 2,500 cases, against 4,500 in 1872. Add to this that, judging from arrivals, the quality is generally considered below the average, then, if a fair export demand sets in in the spring, we may expect, as we said, to see an advance, especially of good samples.

In spices, operators have given most attention to cloves, which have advanced about 2*d.* per lb. Other spices have been languid, and cinnamon, pepper, mace, and nutmegs scarcely keep up previous prices. We pointed out last month the extreme probability of a further advance in the price of cloves. The stock in bond in London has been dwindling all the year, and in the last week of 1873 was reported at 4,574 packages, against 10,035 in the corresponding period last year. The supply must be meagre for some time to come.

There has been some very brisk speculation in shellacs, which close at 20*s.* to 30*s.* per cwt. dearer. Orange especially has been favoured. 800 cases were lost in the *Arcturus*.

Last May we strongly recommended our readers to buy olive oil, which stood at that moment at the extraordinarily low price of 43*l.* per ton for the best Gallipoli. In consequence of forced sales this was followed by a further fall of £1 during June and July, a far lower price than has been touched for years. In August it advanced to 44*l.*; in September to 45*l.* 10*s.*; in October to 46*l.*, and in December it advanced again, while at this moment it stands at 48*l.* Now, the low prices were consequent upon the unsettled condition of affairs in Spain. Spanish oil was sold without reserve, and as Italian holders declined to compete, their stock of 1872 crop remains mainly on hand. This year, naturally, Spain will be to a great degree *hors concours*. The Italians hold a good stock, but their crops of 1873 were seriously small, and if they can afford it they can in all probability give us a lively year. That the descendants of Machiavelli are unaware of their power is a theory which cannot be admitted for a moment.

The fall in the price of turpentine since last February has been remarkable. At that date 51*s.* was being paid. There has been an excellent demand all through the year, but an unchecked decline in price has continued from March to the present time, consequent upon abundant supplies from America. It is now sold at 31*s.* For some months past French producers have sent none whatever to the market in consequence of the hopelessness of their making a profit at such rates.

Petroleum has, as usual, passed through a chequered existence during 1873. Commencing the year at 1*s.* 6*d.* it rose in February to 1*s.* 8*d.*, fell in June to 8*d.*, afterwards struggled up to 1*s.* 1*d.*, and finally kept Christmas at 11½*d.* The consumption of this wonderful product seems ever on the increase. The deliveries for the year were more than 10,000 barrels in excess of 1872.

Monthly Price Current.

The prices quoted in the following list are those actually obtained in Mincing Lane for articles sold in bulk. Our Retail Subscribers must not expect to purchase at these market prices, but they may draw from them useful conclusions respecting the prices at which articles are offered by the Wholesale Firms.

CHEMICALS.

	1874. s. d.		s. d.	1873. s. d.		s. d.
ACIDS—						
Acetic per lb.	0 4	to	0 0	0 4½	to	0 0
Citric ,,	4 3	..	4 3½	4 5½	..	4 6
Hydrochlor per cwt.	4 0	..	7 0	4 0	..	7 0
Nitric per lb.	0 5	..	0 5½	0 5	..	0 5½
Oxalic ,,	0 7½	..	0 0	0 9½	..	0 0
Sulphuric ,,	0 0¾	..	0 1	0 0¾	..	0 1
Tartaric crystal ,,	1 6¾	..	1 7	1 7	..	1 8
powdered ,,	1 7	..	1 7½	1 7½	..	1 8
ANTIMONY ore per ton	200 0	..	240 0	360 0	..	400 0
crude per cwt.	0 0	..	0 0	40 0	..	42 0
regulus ,,	0 0	..	0 0	0 0	..	0 0
star ,,	53 0	..	54 0	65 0	..	67 0
ARSENIC, lump ,,	20 6	..	0 0	18 6	..	19 0
powder ,,	10 0	..	0 0	8 9	..	9 0
BRIMSTONE, rough per ton	127 6	..	145 0	125 2	..	147 0
roll per cwt.	9 9	..	10 0	10 0	..	10 6
flour ,,	11 6	..	12 6	11 6	..	12 0
IODINE, dry per oz.	1 1	..	0 0	0 9	..	0 0
IVORY BLACK, dry per cwt.	8 6	..	0 0	8 6	..	0 0
MAGNESIA, calcined per lb.	1 6	..	0 0	1 6	..	0 0
MERCURY per bottle	330 0	..	0 0	255 0	..	260 0
MINIUM, red per cwt.	25 0	..	25 3	21 3	..	21 6
orange ,,	37 0	..	0 0	32 6	..	0 0
PRECIPITATE, red per lb.	6 2	..	0 0	4 3	..	0 0
white ,,	6 1	..	0 0	4 2	..	0 0
PRUSSIAN BLUE ,,	0 0	..	0 0	0 0	..	0 0
SALTS—						
Alum per ton	175 0	..	185 0	170 0	..	180 0
powder ,,	190 0	..	0 0	180 0	..	190 0
Ammonia:						
Carbonate per lb.	0 7½	..	0 7¾	0 7	..	0 7¼
Hydrochlorate, crude, white per ton	650 0	..	0 0	640 0	..	0 0
British (*see* Sal Am.)						
Sulphate per ton	350 0	..	360 0	400 0	..	410 0
Argol, Cape per cwt.	95 0	..	97 6	76 0	..	90 0
Red ,,	70 0	..	75 0	65 0	..	86 0
Oporto, red ,,	32 0	..	32 6	32 0	..	33 0
Sicily ,,	52 6	..	57 6	67 0	..	70 0
Ashes (*see* Potash and Soda)						
Bleaching powd. per cwt.	10 0	..	0 0	12 6	..	12 9
Borax, crude ,,	40 0	..	85 0	55 0	..	75 0
British refnd. ,,	75 0	..	0 0	105 0	..	0 0
Calomel per lb.	5 9	..	0 0	3 10	..	0 0
Copper:						
Sulphate per cwt.	31 0	..	0 0	31 0	..	31 6
Copperas, green per ton	60 0	..	62 6	60 0	..	62 6
Corrosive Sublimate p. lb.	5 0	..	0 0	3 3	..	0 0
Cr. Tartar, French, p. cwt.	111 0	..	0 0	105 0	..	107 6
brown ,,	95 0	..	101 6	97 6	..	102 6
Epsom Salts per cwt.	5 9	..	6 8	5 9	..	6 3
Glauber Salts ,,	4 6	..	5 6	7 6	..	0 0
Lime:						
Acetate, white, per cwt.	14 6	..	21 0	14 0	..	22 6
Magnesia: Carbonate ,,	42 6	..	45 0	42 6	..	45 0
Potash:						
Bichromate per lb.	0 8½	..	0 0	0 8½	..	0 0
Carbonate:						
Potashes, Canada, 1st sort per cwt.	35 6	..	0 0	39 0	..	0 0
Pearlashes, Canada, 1st sort per cwt.	47 0	..	0 0	50 0	..	0 0
Chlorate per lb.	1 2	..	0 0	1 7	..	1 8
Prussiate ,,	1 2	..	0 0	1 5½	..	1 5¾
red ,,	2 10	..	2 11	3 1	..	0 0
Tartrate (*see* Argol and Cream of Tartar)						
Potassium:						
Chloride per cwt.	8 0	..	0 0	9 9	..	10 0
Iodide per lb.	18 0	..	0 0	12 0	..	0 0
Quinine:						
Sulphate, British, in bottles per oz.	8 6	..	8 9	8 0	..	0 0
Sulphate, French ,,	9 0	..	0 0	7 10	..	0 0
Sal Acetos per lb.	0 10½	..	0 11	1 1½	..	0 0
Sal Ammoniac, Brit. cwt.	42 6	..	43 6	48 0	..	49 0
Saltpetre:						
Bengal, 6 per cent. or under per cwt.	23 9	..	24 6	29 6	..	30 0
Bengal, over 6 per cent. per cwt.	22 9	..	23 6	28 6	..	29 3
British, refined ,,	27 6	..	28 0	33 0	..	34 0
Soda: Bicarbonate, p. cwt.	17 0	..	0 0	17 3	..	17 6
Carbonate:						
Soda Ash per deg.	0 2⅝	..	0 0	0 3 1/16	..	0 3⅛
Soda Crystals per ton	112 6	..	0 0	135 0	..	137 6
Hyposulphite, per cwt.	16 6	..	17 0	15 6	..	0 0
Nitrate per cwt.	12 0	..	13 0	16 0	..	16 3
SUGAR OF LEAD, White cwt.	47 0	..	48 0	41 0	..	0 0
SUGAR OF LEAD, Brown, cwt.	83 0	..	84 0	30 0	..	0 0
SULPHUR (*see* Brimstone)						

	1874. s. d.		s. d.	1873. s. d.		s. d.
VERDIGRIS per lb.	1 1½	to	1 6	1 1½	to	1 2
VERMILION, English ,,	5 6	..	0 0	3 8	..	3 10
China ,,	5 6	..	5 7	3 7	..	4 0

DRUGS.

	1874. s. d.		s. d.	1873. s. d.		s. d.
ALOES, Hepatic per cwt.	80 0	..	200 0	100 0	..	240 0
Socotrine ,,	110 0	..	240 0	160 0	..	220 0
Cape, good ,,	30 0	..	40 0	32 0	..	37 0
Inferior ,,	20 0	..	30 0	20 0	..	30 0
Barbadoes ,,	75 0	..	200 0	70 0	..	200 0
AMBERGRIS, grey oz.	35 0	..	46 0	26 0	..	32 6
BALSAM—						
Canada per lb.	2 8	..	0 0	1 0	..	1 10
Capivi ,,	2 8	..	0 0	2 1	..	2 3
Peru ,,	8 2	..	0 0	9 1	..	9 2
Tolu ,,	2 4	..	2 5	1 9	..	1 11
BARKS—						
Canella alba per cwt.	15 0	..	28 0	15 0	..	25 0
Cascarilla ,,	20 0	..	30 0	24 0	..	37 0
Peru, crown & grey per lb.	0 9	..	2 6	1 0	..	2 8
Calisaya, flat ,,	2 11	..	4 6	2 10	..	4 0
,, quill ,,	3 0	..	4 6	3 0	..	4 10
Carthagena ,,	0 9	..	2 0	0 10	..	1 10
E. I. ,,	1 0	..	5 0	0 0	..	0 [illegible]
Pitayo ,,	0 6	..	2 2	0 4	..	1 9
Red ,,	1 7	..	6 0	1 10	..	6 0
Buchu Leaves ,,	0 1	..	0 9	0 2	..	1 0
CAMPHOR, China per cwt.	90 0	..	0 0	82 6	..	0 0
Japan ,,	0 0	..	0 0	0 0	..	0 0
Refin. Eng. per lb.	1 3	..	0 0	1 2	..	0 0
CANTHARIDES ,,	5 3	..	6 0	6 0	..	6 7
CHAMOMILE FLOWERS p. cwt.	20 0	..	66 0	40 0	..	80 0
CASTOREUM per lb.	4 0	..	20 0	3 0	..	20 0
DRAGON'S BLOOD, lp. p. cwt.	100 0	..	300 0	100 0	..	240 0
FRUITS AND SEEDS (*see also* Seeds *and* Spices).						
Anise, China Star per cwt.	150 0	..	155 0	107 6	..	115 0
Spanish, &c. ,,	29 0	..	35 0	18 0	..	38 0
Beans, Tonquin per lb.	1 9	..	2 6	1 3	..	1 8
Cardamoms, Malabar good ,,	5 0	..	6 3	4 2	..	6 0
inferior ,,	3 6	..	4 11	2 6	..	3 9
Madras ,,	2 6	..	4 6	2 0	..	4 6
Ceylon ,,	4 0	..	4 11	3 6	..	4 0
Cassia Fistula per cwt.	10 0	..	20 0	12 0	..	22 0
Castor Seeds ,,	5 0	..	10 0	5 0	..	10 0
Cocculus Indicus ,,	14 0	..	15 0	12 0	..	14 0
Colocynth, apple per lb.	0 4	..	0 10	0 3½	..	0 7
Croton Seeds per cwt.	50 0	..	65 0	65 0	..	70 0
Cubebs ,,	25 0	..	26 0	20 0	..	27 0
Cummin ,,	18 0	..	30 0	21 0	..	26 0
Dividivi ,,	11 0	..	15 0	11 3	..	16 0
Fenugreek ,,	12 0	..	20 0	10 0	..	16 0
Guinea Grains ,,	26 0	..	30 0	23 0	..	25 0
Juniper Berries ,,	9 0	..	10 6	10 0	..	10 6
Nux Vomica ,,	8 0	..	12 0	9 9	..	15 0
Tamarinds, East India ,,	7 0	..	18 0	5 0	..	20 0
West India, new ,,	13 0	..	24 0	20 0	..	31 0
Vanilla, large per lb.	65 0	..	72 0	58 0	..	72 0
inferior ,,	29 0	..	64 0	26 0	..	56 0
Wormseed per cwt.	0 0	..	0 0	0 [illegible]	..	0 0
GINGER, Preserved, in bond (duty ¼*d.* per lb.) per lb.	0 6½	..	0 9½	0 6½	..	0 9½
GUMS (*see separate list*)						
HONEY, Chili per cwt.	34 0	..	61 0	36 0	..	41 0
Jamaica ,,	42 0	..	50 0	30 0	..	45 0
Australian ,,	35 0	..	45 0	18 0	..	31 6
IPECACUANHA per lb.	3 3	..	3 7	3 4	..	3 7
ISINGLASS, Brazil ,,	3 3	..	5 1	2 6	..	4 6
Tongue sort ,,	3 6	..	5 5	3 4	..	5 2
East India ,,	2 3	..	4 9	1 0	..	4 5
West India ,,	4 9	..	5 2	4 0	..	4 5
Russ. long staple	8 6	..	12 6	8 0	..	12 6
,, inferior	4 0	..	8 0	3 6	..	7 6
,, Simovia	3 6	..	5 0	2 6	..	4 6
JALAP, good ,,	1 2	..	1 5	1 4	..	2 0
infer. & stems ,,	0 10	..	1 1	0 0	..	1 3
LEMON JUICE per degree	0 2¾	..	0 0	0 2¾	..	0 0
LIME JUICE per gall.	2 6	..	2 11	0 0	..	0 0
LIQUORICE, Spanish per cwt.	40 0	..	80 0	0 0	..	0 0
Liquorice Root ,,	11 0	..	18 0	19 0	..	25 0
MANNA, flaky per lb.	2 6	..	3 3	3 0	..	3 3
small ,,	1 4	..	1 9	1 2	..	1 8
MUSK, Pod per oz.	20 0	..	41 0	19 0	..	38 6
Grain ,,	41 0	..	54 0	45 0	..	56 0
OILS (*see also separate list*)						
Almond, expressed per lb.	1 0	..	0 0	1 1	..	0 0
Castor, 1st pale ,,	0 5¾	..	0 0	0 0	..	0 0
second ,,	0 5	..	0 5½	0 5	..	0 5¼
infer. & dark ,,	0 5	..	0 0	0 4½	..	0 4⅝
Bombay (in casks)	0 4¾	..	0 0	0 4¾	..	0 0
Cod Liver per gall.	3 6	..	5 9	3 6	..	5 9
Croton per oz.	0 3	..	0 4	0 3	..	0 4
Essential Oils:						
Almond per lb.	25 0	..	0 0	35 0	..	0 0
Anise-seed ,,	10 0	..	10 3	9 3	..	9 9
Bay per cwt.	0 0	..	0 0	65 0	..	70 0
Bergamot per lb.	7 6	..	18 0	8 6	..	16 0
Cajeput, (in bond) per oz.	2 4	..	2 6	0 0	..	0 0
Caraway per lb.	5 6	..	6 3	5 6	..	6 3
Cassia ,,	4 9	..	5 0	6 10	..	0 0
Cinnamon per oz.	1 0	..	5 0	1 0	..	7 0
Cinnamon-leaf ,,	0 3	..	0 3½	0 2	..	0 5
Citronello ,,	0 1⅞	..	0 0	0 2	..	0 0
Clove per lb.	9 6	..	0 0	4 6	..	0 0
Juniper ,,	1 10	..	2 0	1 3	..	2 4

	1874.		1873.	
Essential Oils, *continued* :—	s. d.	s. d.	s. d.	s. d.
Lavender ......per lb.	1 10	5 6	2 6	5 6
Lemon.......... ,,	11 0	15 0	6 0	15 0
Lemongrass ....per oz.	0 2¾	0 2⅞	0 4	0 0
Neroli .... ,,	0 4	0 6	0 5	0 6
Nutmeg .... ,,	0 7½	0 8	0 9	0 0
Orange..........per lb.	8 0	12 0	7 0	8 0
Otto of Roses....per oz.	13 0	23 0	15 0	28 0
Patchouli ...... ,,	3 6	4 0	4 0	0 0
Peppermint :				
American ....per lb.	18 0	19 0	13 3	14 0
English ...... ,,	28 0	34 0	26 0	28 0
Rosemary ...... ,,	1 4	1 10	1 11	0 0
Sassafras ...... ,,	2 4	3 6	3 2	3 8
Spearmint ...... ,,	6 0	19 0	4 0	16 0
Thyme.......... ,,	2 0	2 2	1 10	1 11
Mace, expressed ..per oz.	0 3	0 3½	0 1½	0 3
OPIUM, Turkey ......per lb.	25 0	29 0	21 0	24 0
inferior ...... ,,	11 0	24 0	12 0	20 0
QUASSIA (bitter wood) per ton	70 0	110 0	85 0	90 0
RHUBARB, China, good and fine ....per lb.	3 0	5 0	2 9	6 0
Good, mid. to ord. ,,	0 6	2 6	0 3	2 6
Dutch trimmed ,,	0 0	0 0	9 0	9 6
Russian .... ,,	0 0	0 0	0 0	0 0
ROOTS—Calumba..per cwt.	9 0	18 0	23 6	35 0
China .... ,,	18 0	24 0	20 0	27 0
Galangal.......... ,,	20 0	28 0	20 0	22 0
Gentian .... ,,	17 0	20 0	17 0	18 0
Hellebore .... ,,	30 0	33 0	30 0	32 0
Orris .... ,,	36 0	80 0	30 0	36 0
Pellitory.......... ,,	38 0	39 0	38 0	39 0
Pink..............per lb.	1 0	1 3	0 10	1 0
Rhatany.......... ,,	0 6	1 6	0 5	0 11
Seucka............ ,,	4 6	5 0	4 9	5 5
Snake .... ,,	1 8	1 9	1 1	1 2
SAFFRON, Spanish .. ,,	20 0	25 0	24 0	32 0
SALEP ....per cwt.	170 0	200 0	170 0	190 0
SARSAPARILLA, Lima per lb.	0 6	0 9	0 5¾	0 9
Para.............. ,,	1 0	1 3	1 3	0 0
Honduras .... ,,	1 1	1 7	1 2	1 9½
Jamaica .... ,,	1 6	2 3	1 6	2 6
SASSAFRAS ....per cwt.	14 0	17 0	0 0	0 0
SCAMMONY, Virgin ..per lb.	25 0	30 0	26 0	30 0
second & ordinary ,,	8 0	24 0	18 0	25 0
SENNA, Bombay .... ,,	0 1	0 5	0 2	0 5
Tinnivelly .... ,,	0 1	1 0	0 3	1 0
Alexandria........ ,,	0 4	1 10	0 2½	1 0
SPERMACETI, refined ,,	1 6	0 0	1 6	0 0
American .... ,,	1 2	0 0	1 2	1 3
SQUILLS............ ,,	0 1	0 2	0 1	0 2

GUMS.

	1874.		1873.	
AMMONIACI drop .. per cwt.	60 0	70 0	110 0	200 0
lump.. ,,	50 0	60 0	80 0	130 0
ANIMI, fine washed ,,	245 0	275 0	280 0	330 0
bold scraped ,,	220 0	240 0	220 0	280 0
sorts ...... ,,	120 0	210 0	140 0	230 0
dark ...... ,,	70 0	110 0	90 0	130 0
ARABIC, E.I., fine ,,	60 0	77 0	65 0	84 0
pale picked .. ,,	70 0	78 0	75 0	84 0
srts., gd. to fin. ,,	40 0	58 0	60 0	69 0
garblings .. ,,	20 0	46 0	23 0	50 0
TURKEY, pick. gd. to fin. ,,	150 0	230 0	160 0	230 0
second & inf. ,,	80 0	140 0	85 0	150 0
in sorts .. ,,	50 0	75 0	0 0	0 0
Gedda .... ,,	21 0	35 0	30 0	42 0
BARBARY, white .. ,,	30 0	45 0	50 0	60 0
brown .. ,,	26 0	40 0	36 0	40 0
AUSTRALIAN...... ,,	28 0	48 0	42 0	45 0
ASSAFŒTIDA, cm. to gd. ,,	55 0	70 0	42 0	105 0
BENJAMIN, 1st qual. ,,	180 0	480 0	180 0	400 0
2nd ,, ,,	150 0	180 0	135 0	200 0
3rd ,, ,,	70 0	85 0	65 0	85 0
COPAL, Angola red ,,	115 0	125 0	125 0	140 0
Benguela ,,	110 0	115 0	110 0	115 0
Sierra Leone, per lb.	0 3	0 10	0 3½	0 10
Manilla....per cwt.	14 0	20 0	17 0	37 0
DAMMAR, pale .... ,,	40 0	41 0	55 0	60 0
EUPHORBIUM .... ,,	11 0	15 0	12 0	15 0
GALBANUM .... per lb.	1 6	2 0	0 0	0 0
GAMBOGE, pckd. pipe per cwt.	220 0	320 0	240 0	310 0
GUAIACUM ....per lb.	0 6	2 6	0 8	2 6
KINO..............per cwt.	60 0	80 0	50 0	85 0
KOWRIE, rough .. ,,	22 0	35 0	30 0	37 0
scraped .. ,,	55 0	85 0	80 0	110 0
MASTIC, picked ....per lb.	5 0	6 6	6 0	7 0
MYRRH, gd. & fine per cwt.	120 0	240 0	120 0	200 0
sorts .... ,,	80 0	110 0	78 0	115 0
OLIBANUM, p. sorts ,,	70 0	75 0	75 0	80 0
amber & ylw. ,,	60 0	68 0	67 0	74 0
garblings.... ,,	20 0	40 0	22 0	39 0
SENEGAL .... ,,	60 0	80 0	70 0	80 0
SANDARAC........ ,,	90 0	105 0	55 0	105 0
SHELLAC, Orange.. ,,	230 0	240 0	177 6	190 6
Liver .. ,,	210 0	227 6	165 0	175 0
THUS .... ,,	19 0	30 0	21 0	23 0
TRAGACANTH, leaf ,,	200 0	400 0	270 0	440 0
in sorts ,,	30 0	150 0	70 0	180 0

OILS.

	1874.		1873.	
	£ s.	£ s.	£ s.	£ s.
SEAL, pale ....per tun	35 10	0 0	39 0	0 0
yellow to tinged ,,	31 10	34 10	34 0	38 0
brown ...... ,,	30 0	31 0	33 0	0 0
SPERM............ ,,	95 0	96 0	0 0	0 0
COD .... ,,	33 10	34 0	38 10	0 0
Oils, *continued* :—	£ s.	£ s.	£ s.	£ s.
WHALE, South Sea, pale, per tun	33 10	0 0	40 0	40 10
yellow ,,	32 0	33 0	38 0	0 0
brown ,,	30 0	31 0	33 0	34 0
East India, Fish ,,	26 0	0 0	27 10	28 0
OLIVE, Galipoli....per ton	48 0	0 0	47 0	0 0
Trieste...... ,,	46 0	0 0	46 0	0 0
Levant .... ,,	42 0	42 10	43 10	44 0
Mogador .... ,,	41 10	42 0	43 10	0 0
Spanish .... ,,	43 10	44 0	44 10	0 0
Sicily ...... ,,	43 0	43 10	45 0	0 0
COCOANUT, Cochin.. ,,	39 0	40 0	38 10	39 0
Ceylon ,,	35 10	36 0	34 10	0 0
Sydney ,,	31 0	35 0	30 0	35 0
GROUND NUT AND GINGELLY :				
Bombay	0 0	0 0	0 0	0 0
Madras	36 0	0 0	35 10	36 0
PALM, fine................	36 0	36 10	38 10	39 0
LINSEED	29 12/6	0 0	33 15	34 0
RAPESEED, English, pale ..	35 0	0 0	41 10	0 0
brown	33 0	0 0	40 0	0 0
Foreign, pale ..	35 10	0 0	42 0	42 10
brown	0 0	0 0	39 10	40 0
COTTONSEED	27 0	0 0	31 5	31 10
LARD	43 0	0 0	44 0	44 10
TALLOW	29 0	0 0	32 0	0 0
TURPENTINE, American, cks.	31 0	31 3	45 0	0 0
French ,,	0 0	0 0	41 0	0 0
PETROLEUM, Crude	0 0	0 0	0 0	0 0
	s. d.	s. d.	s. d.	s. d.
refined, per gall.	1 0½	0	1 8¾	1 9
Spirit ,,	0 11	0 11½	1 4	1 5

SEEDS.

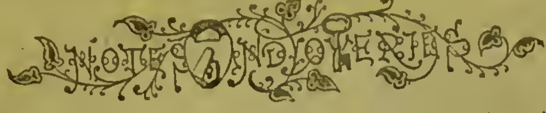
	1874.		1873.	
CANARY............per qr.	60 0	68 0	48 0	56 0
CARAWAY, English per cwt.	39 0	44 0	36 0	44 0
German, &c....	26 0	36 0	29 0	36 0
CORIANDER	8 0	16 0	16 0	18 0
HEMP..............per qr.	40 0	44 0	40 0	44 0
LINSEED, English per qr. ..	66 0	70 0	0 0	0 0
Black Sea & Azof	59 0	62 0	61 6	62 0
Calcutta ,,	61 0	63 0	66 0	0 0
Bombay ,,	63 6	65 0	64 6	0 0
St. Petrsbrg. ,,	56 0	58 0	60 0	60 6
Mustard, brown..per bshl.	10 6	15 6	13 0	16 0
white.. ,,	8 6	12 6	8 0	9 0
POPPY, East India, per qr.	65 0	65 6	56 0	0 0

SPICES.

	1874.		1873.	
CASSIA LIGNEA ..per cwt.	70 0	82 0	85 0	95 0
Vera .... ,,	30 0	61 0	30 0	60 0
Buds .... ,,	115 0	117 6	120 0	125 0
CINNAMON, Ceylon :				
1st quality ......per lb.	2 0	4 3	2 9	3 11
2nd do. .... ,,	1 8	3 5	2 3	3 6
3rd do. .... ,,	1 6	3 1	1 10	3 3
Tellicherry ...... ,,	0 0	0 0	2 9	3 2
CLOVES, Penang .... ,,	1 11	0 0	1 4	1 5
Amboyna .... ,,	1 5	0 0	0 6½	0 11
Zanzibar.......... ,,	1 5	1 5½	0 7¼	0 7½
GINGER, Jam., fine per cwt.	110 0	252 0	100 0	200 0
Ord. to good .... ,,	66 0	100 0	50 0	90 0
African .... ,,	60 0	0 0	44 0	45 0
Bengal............ ,,	53 0	0 0	40 0	0 0
Malabar .... ,,	50 0	0 0	0 0	0 0
Cochin .... ,,	70 0	120 0	45 0	125 0
PEPPER, Blk, Malabar, per lb.	0 8	0 8½	0 7	0 0
Singapore .... ,,	0 7¾	0 0	0 6¾	0 0
White Tellicherry ,,	2 0	0 0	0 0	0 0
Cayenne .... ,,	1 6	2 1	1 6	2 0
MACE, 1st quality .. ,,	3 6	4 1	4 2	4 8
2nd and inferior .. ,,	2 11	3 5	3 8	4 1
NUTMEGS, 78 to 60 to lb.	3 4	4 4	3 6	4 3
90 to 80 ,,	3 0	3 3	3 3	3 5
132 to 95 ,,	2 6	3 0	2 8	3 1
PIMENTA	0 2½	0 3½	0 2½	0 3

VARIOUS PRODUCTS.

	1874.		1873.	
COCHINEAL—				
Honduras, black ..per lb.	2 1	3 0	2 5	3 4
,, silver .. ,,	1 11	2 4	2 5	2 8
,, pasty .. ,,	1 8	1 10	2 2	2 3
Mexican, black .... ,,	2 0	2 5	2 5	2 8
,, silver.... ,,	1 11	2 0	2 4	2 5
Teneriffe, black .. ,,	2 1	3 10	2 5	4 2
,, silver .. ,,	2 0	2 3	2 5	2 7
PUMICE STONE ..per ton	120 0	150 0	120 0	150 0
SOAP, Castile......per cwt.	33 0	34 0	33 0	34 0
SPONGE, Turk. fin. pkd pr lb.	12 0	16 0	12 0	16 0
Fair to good ,,	4 0	11 0	4 0	11 0
Ordinary .. ,,	1 0	3 6	1 0	3 6
Bahama............ ,,	0 6	3 6	0 6	2 6
TERRA JAPONICA—				
Gambier ......per cwt.	24 9	0 0	25 0	26 0
Free cubes .... ,,	34 0	36 0	29 6	30 0
Cutch .... ,,	20 0	21 0	23 0	24 0
WOOD, DYE, Bar ..per ton	£3 7/6	£3 15	£4 0	£4 5
Brazil, Branch .... ,,	24 0	30 0	25 0	48 0
,, Logs ...... ,,	9 0	20 0	9 0	15 0
Cam.............. ,,	18 0	30 0	16 0	20 0
Fustic, Cuba ...... ,,	9 0	9 10	8 10	9 10
Jamaica .... ,,	7 0	7 5	5 10	6 10
LOGWOOD, Campeachy ,,	9 10	10 0	8 10	9 0
Honduras ...... ,,	6 10	6 15	5 5	5 10
St. Domingo .... ,,	5 15	6 0	4 5	4 15
Jamaica .... ,,	6 0	6 2,6	4 12 6	4 15
LIMA, first pile .... ,,	12 10	13 0	8 10	11 0
RED SANDERS .... ,,	6 0	0 0	6 0	6 10



Anxious Enquirer, and T. O. M.—A reply, not quite correct, was inserted in this column two months back to the initials T. O. M. An Associate of the Pharmaceutical Society, having passed the minor or modified examinations, is NOT eligible for election as a member. An exception was made as far as chemists and druggists in business before 1868 were concerned, they being eligible for election as members. Gentlemen having passed the "minor," or "modified," may be elected associates. There seems no legal reason why they might not describe themselves as "chemists and druggists by examination," but, in so far as this might create a false impression, there is clearly a moral objection.

The Adulteration Act.—Mr. Young, of Leicester (county analyst) puts us right in reference to a remark in this journal in reference to the fees paid to Dr. Letheby for analyses under the above Act. Our correspondent reminds us that the Act does not place any limit upon the fees that may be paid by the corporate or other body appointing their analyst, only the fees paid by the public to such body (through their inspector), viz. not less than 2*s.* 6*d.*, and not exceeding 10*s.* 6*d.*

Agnes (if we correctly read the signature) refers to our futile attempt to discover the origin of the title of *Hindoo Pens,* and surmises that the makers, Messrs. Macniven and Cameron, sent them to us as an hindoos-ment for us to use them. Now we put it to Agnes, kindly but firmly, what has this to do with the promotion of pharmacy?

Rustic.—We are glad to be able to furnish you with an excellent formula for liquid cochineal. The product is a rich crimson syrup, which will preserve its colour and brightness for an almost indefinite period.

℞ Alumen. Ust.
Potas. Tart. Acid.
Potas. Carb.
Cocci Cacti, āā ʒxij.
Aquæ ℥xxiv.
Sacchar. Alt. ℔ ij.

Reduce the cochineal to powder, and mix it thoroughly in a mortar, with the dried alum, cream of tartar, and carbonate of potassium. Then add sufficient water to form a thin paste, and, after trituration, pour in gradually the remainder of the water, stirring diligently. Allow the mixture to stand for twelve hours; then filter, and dissolve the sugar in the clear liquid with the aid of a gentle heat.

"Rustic" asks if one of our correspondents who kindly favoured him with the recipe for "Composition powder" could give him a form for the compound known as "Indian Brandee," which, he says, "goes hand in hand" with the composition.

Inquirer.—(1). What do you mean by a "Registered Assistant Chemist and Druggist?" If you are registered as having been engaged as an assistant for three years prior to 1868 you may establish yourself in business by simply going through the modified examination; otherwise, you have no alternative but to pass the minor. (2). The "Manual of Colours and Dye Wares," by W. Slates (Lockwood & Co.), 1870.

Sigmia would be glad to find a maker who could supply the so-called "Lightning Paper" in quantities of a ream and upwards. He has tried most of the London and provincial houses dealing in such articles, without success. Is there any manufacturer open to orders; if so, we shall be pleased to hear from him. Someone has evidently neglected to use our advertisement columns.

Assistant.—We are sorry to hear that your friend thinks he has been made the victim of an unprincipled "coach." You will, however, agree with us that it would be manifestly unfair to denounce all those who advertise a postal system of instruction as swindlers, simply because one of the number seems to have been extortionate. Had you furnished us with names and more definite information we would have made inquiries, and spared no pains to expose an imposition if such had really occurred. The value of a certain amount of instruction, remember, appears so vastly different when estimated by the teacher and by the pupil that it is a rare thing to find the latter satisfied with his bargain; and should he chance to be particularly impenetrable, lessons, however valuable, are as the proverbial pearls to our porcine friends. And, after all, the student who pays money to an utter stranger without making definite arrangements for a *quid pro quo,* is learning the useful old lesson about a fool and his money going different roads.

Omnia Vincit (Bradford).—We are not acquainted with any work on concentrated tinctures, but we do not see that you would experience any difficulty in preparing them of almost any strength. Careful percolation gives a high degree of concentration, and if you then distil off a certain amount of spirit you would of course obtain a tincture as strong as you pleased.

F. G. C. C. will find important particulars respecting the preliminary examinations in our report of the Council meeting this month. For any specific information he should address the Secretary, 17 Bloomsbury Square, London.

J. B. (Birmingham).—We must be excused from touching on questions relating to music in this column. Apply to the editor of the *Orchestra.* Our correspondent, however, may take it as a singular psychological fact that a development of musical proficiency seems to have some occult connection with a deficiency of the moral faculties. We ourselves have no musical development.

A correspondent at Plymouth is good enough to call our attention to a paragraph in *Once a Week,* in which some writer vainly attempts to imitate the liveliness of the *Pall Mall Gazette.* After referring to the "insolence" of druggists, in not quite grammatical language, because they are determined "to ask permission to sell adulterated drugs," he adds, "Speaking from our own experience, we can say that a prescription made up at the ordinary chemist's means one thing, and that made up at Apothecaries' Hall another." We can find nothing else in *Once a Week* of the smallest interest.

Whiskers.—We have to give the following formula for Brilliantine periodically about twice a year:—

Honey, ℥j.
Eau de Cologne, ℥ss.
Glycerine, ʒss.
S. V. R., ʒij.

Boxer wants a remedy for a black eye. Of course a black eye is nothing more than an ordinary bruise, and probably there can be no better treatment than abundant bathing with ice-cold water, alternated with a little weak spirit (for external application). Arnica is believed to have some specific action, and an arnica lotion made of Tinct. Arnica ʒj Aquæ ℥vii. is often prescribed, and is a great favourite with the public. An experienced member of our staff says there is nothing equal to a piece of raw meat for the prevention or cure of a black eye.

G. A.—Brilliant Colours for Globes.—Royal Blue: Take nitrate of copper 3 oz. water sufficient to dissolve it; add water of ammonia as long as the colour becomes deeper, then water to make up two gallons. *Emerald Green:* Nickel 3 oz., muriatic acid 4 oz., nitrous acid 2 oz.; digest for twenty-four hours, add two gallons of water and filter. *Crimson:* Iodine and iodide of potassium, of each 2 dr.; triturate with 1 dr. of water, then add 3 gallons of water and 4 oz. of muriatic acid. *Yellow:* Bichromate of potash 2 dr., hot water 4 oz.; dissolve, and add 4 oz. sulphuric acid, and 2 gallons of water; see also reply to H. T. D. A correspondent of an American journal states that he produces a red, white, and blue, in one bottle, by putting in first water coloured blue, then turpentine left white, then alcohol coloured red.

H. T. D.—Nitrate (or chloride) of cobalt (which unquestionably produces the most brilliant and permanent show colour), is first dissolved in water, then a solution of sesquicarbonate of ammonia is added, q. s., to dissolve the precipitate at first formed. This yields a pink. By the gradual addition of solution of ammonia-sulphate of copper, the colour is struck to rich violet. This is an expensive colour, but wonderfully effective.

L. M. E. (New Brunswick).—We should recommend Dussance's "Practical Guide for the Perfumer," published by Trübner & Co., London, and H. Carey Baird, of Philadelphia.

Syrupus.—There can be no difficulty in making syrups from the fruit essences. We have not the proportions at hand just now, but it is only necessary to take a simple syrup as the basis and colour it with liquid cochineal, and flavour it with your essence, q. s.

A Constant Reader wants a formula for a kid reviver for renovating the uppers of ladies kid boots. One that will wear well and not soil the dress.

B. C. (Chicago).—Steedman's Powders are generally supposed to depend for their efficiency on calomel, and it has been stated, but we cannot recall on what authority, that they also contain very minute doses of opium. We believe the remainder of the powder is sugar.

ASSISTANTS GIVING PRICED RECEIPTS.

To the Editor of THE CHEMIST AND DRUGGIST.

SIR,—I beg to call your attention to the above-named practice, which is most injurious to the trade.

To-day a customer brought the following recipe to be dispensed, written on a Manchester firm's invoice:—

℞ Bals. Copaiba.
Spt. Æth. Nitr.
Tinct. Lavand. Co.
Tinct. Sennæ.
Tinct. Benzoin. Co. āā ℥ss.
10*d.*

This is anything but a fair price for such a mixture, and if assistants who give these priced recipes would only consider the welfare of the trade they would discontinue it. Let them give as many recipes as they think proper but not make a brother tradesman appear an impostor when asking reasonable price for dispensing *sham prescriptions.*

Yours, &c.
FAIR PLAY.